

THE NEW TECHNIQUE  
OF UNCOVERING  
SECURITY BARGAINS

By  
JOHN DURAND









# The New Technique of Uncovering Security Bargains

*by*  
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## Preface

The present volume is intended to meet the requirements of month-to-month Spec-investors, whose methods of operation occupy a middle ground between deductions from the technical position to which week-to-week traders look for guidance, and studies of values and fundamentals which are the chief reliance of year-to-year investors. The gap is here bridged by that very useful tool, the "Group Ratio Curve", which, in Chapter XIV of *The Business of Trading in Stocks*, was referred to as the "Trend curve", or "T" curve. There, this curve was used as an instrument for reading the technical position: here, we find that it also functions as a barometer of the industrial outlook.

Readers who have become accustomed to current conventional methods of analysis will doubtless be struck by the absence of any reference in the following pages to such familiar indices of financial condition as accumulated surplus, working capital, cash, notes payable, and ratio of current assets to current liabilities. In the writer's experience, none of these purely static financial items exerts any perceptible direct influence upon either the amount or direction of a stock's market progress. They do help in judging the plausibility of rumored stock dividends and changes in the cash dividend rate; but this seems to be their chief value to the spec-investor. The dominant considerations in forecasting the broader market movements are the outlook for money and prospects of important changes in the rate of earnings per share. As stated in *The Business of Trading in Stocks*, "Market prices are, in the long run, predicated upon the assumption that dividends

## Preface

will in due time fall into alignment with earnings”.

Similar considerations will explain why little stress has been placed upon dividend yields as a means of detecting bargains. About the only instance in which dividend yield can be a ponderable market influence is where a stock has shown comparatively stable earnings, and paid regular dividends for a number of years. Such a situation appeals to the permanent investor who seeks a safe and steady cash income, free from nerve-racking market fluctuations. But the modern spec-investor looks for opportunities to increase his principal, and stocks that show rapidly increasing earnings per share are bound to rise faster than stable dividend-payers; regardless of how much the latter may have been undervalued at the time of purchase, and however swiftly interest rates may fall; for conditions in the money market act upon all stocks with equal force.

In planning the present work, it seemed desirable to distribute parts of the theoretical discussion among sections where abstractions could be readily illustrated by practical applications. Threads of the story about Barometers, Group Ratios, the Out-of-line method, and other general aids to bargain finding, thus run through a number of chapters; which accounts for the rather disjointed manner in which part of the subject matter has been presented.

FRANK ALBEE GIFFIN, M. A.  
*New York City*

*September, 1928.*



# Contents

## PART I

PREFACE . . . . .	iii
-------------------	-----

CHAPTER	PAGE
---------	------

I ANALYZING THE THREE FUNDAMENTAL DEVELOPMENTS WHICH HAVE CHANGED THE BASIS FOR SELECTING SECURITIES .	1
Changing character of the market—why individual issues stand out against general market trend—the problem of selection—to what extent special factors such as money rates, etc., affect security prices.	

II WHY A STUDY OF "GROUP MOVEMENTS" IS ESSENTIAL TO SUCCESSFUL INVESTING UNDER NEW MARKET CONDITIONS . . .	13
Why position of groups has pronounced influence on individual issues—when seasonal activity in certain industries acts as an index of future price movements—the essential fundamentals which should be the basis of making profitable security purchases.	

III DOUBLE TRENDS IN INDIVIDUAL GROUPS .	27
Dividing groups into strong and weak issues—table showing double trends in individual groups—discrimination essential in the selection of the individual issues.	

IV PRINCIPLES OF INDIVIDUAL SELECTION . .	41
Exceptions to group movements—selection of specialties—principles of individual analysis.	



## Contents

CHAPTER	PAGE
V THE VALUE OF THE TECHNICAL POSITION	59
Exceptions to the law of supply and demand— to what extent does manipulation affect security prices in the present markets—irregular trends.	

## PART II

### *Basic Principles for Determining Individual Profit Possibilities in Twelve Leading Groups*

VI THE STEEL GROUP . . . . .	67
VII THE PETROLEUM GROUP . . . . .	81
VIII NON-FERROUS METALS . . . . .	93
IX RAILROADS . . . . .	109
X PUBLIC UTILITIES . . . . .	129
XI AUTOMOBILES, TIRES AND ACCESSORIES .	145
XII MERCHANDISING STOCKS . . . . .	157
XIII SUGAR, LEATHER AND TOBACCO . .	173
XIV SUMMARY . . . . .	187

# The New Technique of Uncovering Security Bargains

## PART I

### CHAPTER I

#### Analyzing the Three Fundamental Developments Which Have Changed the Basis for Selecting Securities

**T**HIS volume has for its object a presentation of certain changes in the technique of forecasting that have been made necessary by new methods of investing and the wholly altered character of business and financial conditions and the stock market since the War. Perhaps the most striking of all these changes has been the phenomenal growth in complexity which now renders it necessary for the successful investor to devote an ever increasing amount of attention to detail. Fortunately this evolution from the simple to the complex has been accompanied by a corresponding increase in the available output of more dependable general information and statistical data.

#### Three Important Developments

Of the many factors that have contributed to the modern evolution in investment conditions since pre-War days, we may say that three are of fundamental importance—so far, at least, as this country is concerned. These are the inauguration of our Federal Re-

## New Technique of Uncovering Security Bargains

serve System which gave to the country, for the first time in its history, an adequate and elastic currency; subsidence, during the Coolidge administration, of popular hostility toward big business, thereby encouraging the integration of industrial activities into huge units which have effected great economies in the cost of production; and the rapid flowering of technical and business imagination into marvelous inventions and new ways of doing business. By far the most influential of all recent developments, however, are the new banking laws that have been put upon our statute books since 1913. It seems probable, in fact, that the Federal Reserve Act is the basic factor which has rendered the other two potent; for it has been the means of supplying ample funds to finance the development of inventions and to equip plants with labor saving machinery.

### Effect of Federal Reserve System Upon Industry and Finance

The influence of our new banking laws upon all phases of industry and finance are so far reaching that even at this writing, thirteen years after the Federal Reserve Banks were established, it is impossible to appraise them completely. Under the old National Banking Act, expanding industry and rising stock markets were always checked prematurely by our law imposed credit barriers. Legal reserve requirements were so high, and the currency so rigid, that business prosperity and bull markets invariably came to a halt after a few years for lack of funds.

The effect was like cutting off the coal supply to a factory just at a time when its books are crowded with unfilled orders. The only way money could be made plentiful again was for security prices to decline and for industry to slow down. The evil effects of these

## Analyzing the Three Fundamental Developments

artificially made business cycles were accentuated by the competitive bidding up of commodity prices consequent upon the inability of producers to meet the demand for goods. Speculation in inventories with rising prices yielded large book profits so long as the business boom lasted; but enforced liquidation of hoarded goods and raw material led to even greater losses during the ensuing swift recession. It is scarcely to be wondered that economists came to regard the extreme ups and downs of the periodic business cycle as inevitable.

The Federal Reserve Act effectively removed all these financial restrictions, for a period of years at least, by cutting legal reserve requirements to about one-third of the percentage required under the old banking act and by authorizing the issuance of Federal Reserve notes against member banks' deposits with their Federal Reserve bank. And, as if this were not enough, it so happened that our stock of monetary gold increased from about 1.87 billion dollars in 1914 to about 4.59 billions in 1927. It has been said that the vast increase in potential credit thereby made effective has not resulted in the actual inflation that was predicted; but such disclaimers seem to be challenged by the facts.

During the entire history of the nation, up to 1914, deposits of all banks in the U. S. had grown to only 21.3 billion dollars, and loans to only 15.3 billions. During the next 13 years, the period during which our Federal Reserve System has been in operation, total deposits mounted to about 52 billions and loans to 37.1 billions. Savings deposits in all U. S. banks grew in the meantime from 8.7 billions to about 27 billions; while the weekly full time wages of union labor have increased about 135%.

Since 1921, there has been an unprecedented bull

## New Technique of Uncovering Security Bargains

market in stocks, and the thirteen-year period has witnessed an enormous increase in the productive capacity of manufacturing plants. Statistics of new incorporations, new capital issues, New York Stock Exchange transactions, debits to individual accounts, all disclose phenomenal rates of increase under Federal Reserve regime.

### Competition and Commodity Prices

We thus find unmistakable evidence of what is certainly expansion all along the line. In commodity prices alone, where the orthodox economist customarily looks for inflation, has the increase been less conspicuous; since wholesale prices are up only 50% and the cost of living about 65%. The reason for this discrepancy is to be sought in the rapid growth of competition that has developed since the War. During the War, an insatiable demand for goods, accompanied by an abundant supply of money capital, led to the development of productive capacities that were far in excess of normal peace time requirements.

Since the War, a continuance of this ready accessibility of liquid capital has not only encouraged a still further expansion of plant capacity; but has made it possible to finance elaborate sales and advertising campaigns. The latter is reflected in a growth of 75% in newspaper advertising between the years 1916 and 1927, and the even more startling increase of 100% in magazine advertising since 1915. Huge consolidations of manufacturing concerns and widespread installation of labor saving machinery have aided the process of competitive price cutting by cheapening costs of production. The restraint which domestic competition has exerted against the extraordinary inflation in commodity prices that would otherwise have normally re-



## Analyzing the Three Fundamental Developments

sulted from our huge increase in gold and deposits has been accentuated by a world wide increase in the output of raw materials. Frightened by shortages in material from which they suffered during the War, foreign nations have since generally adopted the policy of economic self sufficiency, and this has led to much redundant production during a period when their populations have been too impoverished by war and fiscal demoralization to consume the surplus.

A few figures citing pre-War production as compared with 1926 will make this clear. During this twelve-year period, world production of sugar increased about 10%, tobacco 30%, cotton 25%, silk 60%, rubber 500%, petroleum 200%, and copper 50%. The output of a few commodities, such as coal and iron, remained practically stationary; owing to the growing use of substitutes, and higher combustion efficiency, in the instance of coal, and the low rate of new construction obtaining in Europe since the War in the instance of iron.

It seems indeed that the War and our new banking system must be held accountable for practically all the anomalous economic developments that have occasioned so much discussion during the past few years: record prosperity with falling commodity prices (Wholesale prices, though up 50% since 1914, are down 35% from their 1920 peak); hand-to-mouth buying, in the absence of incentives to hoard commodities; rapid growth in installment buying, due to the ease with which dealers could obtain credit to finance such sales.

The period from 1921 to date has been one, however, in which prosperity has been by no means evenly distributed—either among separate industries or individual concerns. Prior to the War, fiscal limitations tended to cause business conditions in all industries to rise and fall together in unison with the business cycle. It was accepted that, as a general rule, when one industry pros-

## New Technique of Uncovering Security Bargains

pered they all did—or soon would—and that when business was bad in one line it was—or soon would be—bad in all other lines. Then, as now, there was indeed a time lag between leading and dependent industries; but they all had to pass through about the same business cycle. Up to the year, 1922, each individual concern in an industry tended strongly to prosper and languish with the general business cycle. Even small, poorly equipped, and badly managed companies could count upon participating in the overflow of orders toward the peak of a boom, when leading concerns had to turn away business.

Inefficiency had a chance to survive in the days when even large concerns with strong banking connections found it impossible to obtain enough capital to expand and remodel as rapidly as their prospects warranted. During the past few years, however, many of the stronger corporations of each industry have expanded their capacity to handle the peak load without great delay in delivery, and their plants have been so completely modernized that goods can be turned out cheaply even when operating at 75% of maximum capacity.

With periodic money shortages no longer a handicap, other forces have been left free play in determining the course of industry and the fate of individual companies. Such factors as management, location, invention, the seasons, international competition, banking affiliations, etc. have assumed greater importance in the struggle for profits. As an outcome we find some industries prospering while others are in the depths of depression; and within each industry, regardless of its state of prosperity, we find some concerns reaping handsome profits at the time that others are operating in red ink.

To analysts of the old school current conditions in business must seem chaotic; yet out of all this con-

## Analyzing the Three Fundamental Developments

fusion and complexity one strong tendency is clearly discernible—the larger corporations are making it increasingly difficult for their smaller competitors to survive. Statistics show, in fact, that the number of manufacturing establishments in this country has diminished from 271,000 in 1914 to 187,000 in 1925. Even more startling is the revelation that, during the latter year, 2.5% of all corporations reporting to the Income Tax Bureau earned 98% of all the profits!

### A New Stock Market

All the foregoing influences and developments have led, as might be expected, to a corresponding radical transformation in the characteristics of our leading markets for securities. On the New York Stock Exchange, for example, annual transactions in stocks have increased from 170 million shares in 1915 to 516 millions in 1927, while bond sales rose from a billion dollars in par value to three and a quarter billions. In 1913 there were only 225 different companies that had stocks listed on this Exchange: by the end of 1927 the number had increased to 700, in addition to 465 companies and governments that had listed only bonds. According to compilations made by the New York Times, the monthly average price of 25 leading industrial stocks increased from \$58 in 1914 to \$215 in 1927.

This increase in size and height has been accompanied by an even greater growth in breadth, diversity and confusion of price currents. Prior to the War, the turnover of three stocks—Reading, Union and Steel—averaged 50% of the transactions in all listed stocks. There were days when the sales in these leading speculative favorites rose to even 75% of the total: in 1927 their combined contribution to the transactions had dwindled to less than 4%. The market has in the mean-

## New Technique of Uncovering Security Bargains

time not only developed many new leaders, but activity is constantly shifting from one issue to another.

When THE MAGAZINE OF WALL STREET compiled its Common Stock Price Index, in 1926, it was necessary to include 238 different issues in order to cover 90% of the total volume of sales. Two years later the number of issues used in the compilation had to be increased to 308. Only a partial enumeration of industries now listed that were not traded in prior to the War will give some conception of the rapid growth in diversity. Among these are radio, aeronautics, electric refrigeration, vacuum cleaners, washing machines, safety razors, railway signals, proprietary medicines, household cleansers, hosiery, etc. Some of these are new industries: others merely reflect sufficient growth in size and importance to warrant listing on our leading Exchange. All this expansion in size and complexity obviously adds enormously to the amount of detailed information a person must digest in order to invest successfully.

### Altered Character of Price Movements

Prior to the War, any broad move of exceptional magnitude in the stock market was invariably followed within a few months by a corresponding change in business conditions. Thus it came to be held as an accepted axiom that all of the more import price swings in the stock market were governed by the business outlook. Since 1921, however, the stock market has each year become increasingly more free from the influence of general business conditions until, during the last half of 1927, we witnessed the startling phenomenon of one of the strongest bull markets on record in conjunction with the most pronounced recession in business that had taken place since 1921.

## Analyzing the Three Fundamental Developments

This is all very puzzling to forecasters of the old school who always looked to such "barometers" as car loadings, unfilled steel orders, business failures, employment indexes, inventories, crops, commodity prices, etc., for clues to future movements in the "Combined Averages". As will be brought out in a later chapter, some of these basic factors are still helpful in forecasting the broader price movements of stocks that represent specific industries; but, so far as any value these possess in forecasting price movements in the market as a whole, they may as well be thrown into the waste basket.

### Money and the General Averages

Developments during the past few years have demonstrated quite clearly that, so far as price movements in the Combined Averages are concerned, the stock market is now dominated by conditions in the money market, almost to the exclusion of all other influences. In the writer's judgment this has always been true; but the fact was sometimes obscured by the coincidence that, prior to 1922, the business cycle in all lines of activity was also governed by conditions in the money market. When money grew scarce at the peak of the cycle, it was easier and more sensible to raise cash by selling securities than to curtail business activities: hence security prices were the first to give way. Not only this, but interest rates naturally rose as money grew scarce, so that it became more profitable to speculate in inventories with rising commodity prices than to carry securities in a falling market. At the bottom of the cycle, people found it more profitable—just as they have during the past few years—to put their idle cash into securities.

In considering the influence that conditions in the



## New Technique of Uncovering Security Bargains

money market exert upon securities one must allow not only for interest rates and the prospective supply of credit but also for the current attitude of bankers and brokers toward the market. The latter consideration is of extreme practical importance. Despite the zeal with which the stock market has been endeavoring, during the past thirteen years, to assist industry in absorbing the superabundance of potential credit, there still remains a great deal of slack that can be taken up if those in authority in the banking world see fit to permit it.

There are many ways of making credit artificially scarce for short periods. However, even when basic conditions point to easy money later on. When, for one reason or another, the powers that be conclude that it is time to throw on the brakes the orthodox procedure, so far back in time as history records, has been for banks and brokers to raise their margin requirements. This always used to be effective in bringing about a "healthy reaction" during the course of which "weakly held stock" would be shaken out and fall into "strong hands".

Of recent years, however, "technical" reactions of such origin have not gone very far—partly because there are fewer weakly held stocks, partly because margin calls now bring forth more cash than distress selling orders, and partly because the investing public has become more sophisticated. Fortunately it is usually possible to anticipate reactions of this character by methods that will be outlined in a subsequent chapter.

### Brokers' Loans and Fiscal Barometers

An analysis of the five graphs depicted in Chart I will show how closely the longer trend course of stock prices is related to banking activities, and how little

## Analyzing the Three Fundamental Developments

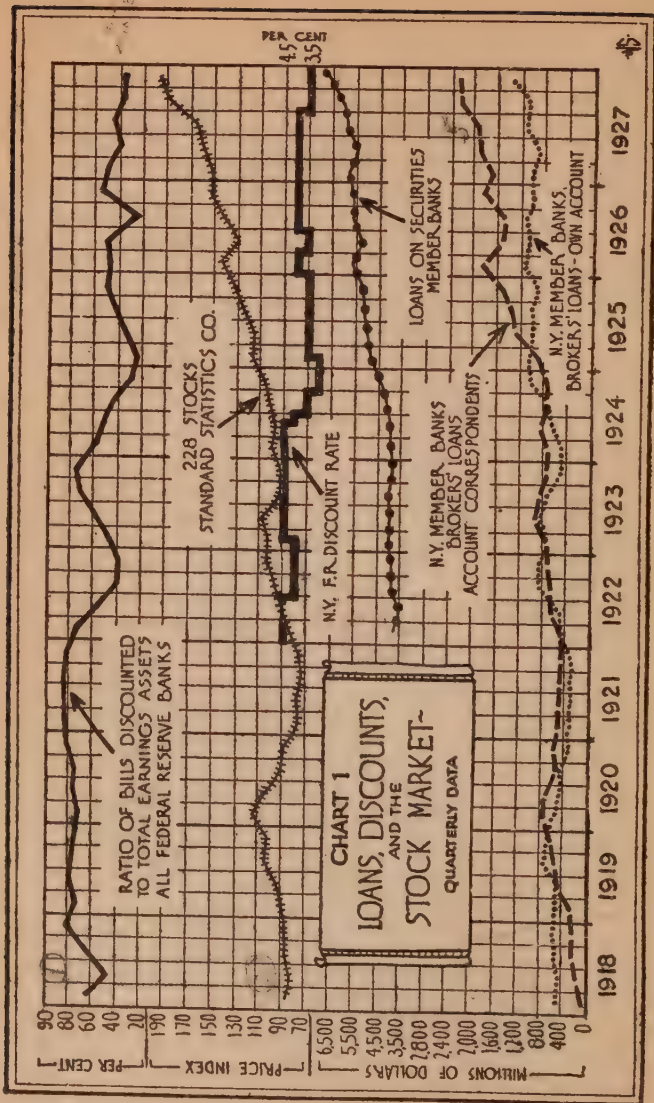
it is dependent upon the volume of either individual or brokers' loans on securities. In fact the stock market seems to serve as a barometer of security loans, rather than *vice versa*. It is difficult to concur with popular apprehension over the growth in brokers loan, after observing that security loans (brokers' plus individual) have increased only 83% since the end of 1921, while the stock market has risen 130%. At the end of 1927, in fact, brokers' loans amounted to only 8% of the market value of stocks listed on the N. Y. S. E., and to less than 5% of the market value of both stocks and bonds.

### Problem of Selection

All this, of course, greatly complicates the problem of selecting suitable securities. The great addition of securities to those already listed on the principal Stock Exchanges, the growth of local interest in specific industries and companies, the breaking-up of the market into numbers of more or less independent groups are all factors which make the task of selecting an individual issue quite difficult.

As will be shown in succeeding chapters, the first phase of the problem is to decipher the position and outlook for the industry in which the investment is contemplated. Not until this has been successfully achieved, is it possible to form an intelligent opinion regarding the position of the specific security under consideration.

In the following chapters, will be found a detailed discussion and analysis of the various factors, especially those of recent origin, which affect the values of securities. A thorough understanding of the working of these factors will be of great assistance to the investor in his security purchases.



## CHAPTER II

### Why a Study of "Group Movements" Is Essential to Successful Investing Under New Market Conditions

**I**N the preceding chapter it was concluded that, whereas the modern stock market remains, as, formerly, under the dominant influence of banking conditions, its component groups move in harmony with the outlook for the respective industries which they represent. Here, apparently, is a glaring contradiction that calls for explanation. Since the Combined Average, which discloses changes in price levels of the market as a whole, is nothing more than a grand average of the price movements of its constituent industrial group averages, how can it be that the *whole* responds only to monetary considerations, whereas its *parts* move with industrial conditions? Before clearing up this enigma, let us first establish the facts somewhat more firmly.

#### The Combined Averages

It is quite the vogue now among market writers to claim that there is no longer "A market": that the old market averages and indexes to which we had become accustomed to look for guidance are no longer representative and significant. The latter part of this criticism is, of course, valid; for the market has become so broad that no list of merely a few dozen stocks can possibly convey an adequate picture of all that is going

## New Technique of Uncovering Security Bargains

on; but this is far from saying that a price index composed of a *sufficient number* of stocks conveys no information of value to traders and investors. Graphs (1) and (5), Chart I, show quite clearly that conditions in the money market exert a powerful influence upon movements in the general averages over the longer periods of time, and a chart that accompanies Chapter V. will disclose that lesser movements of the Combined Averages are caused by still other monetary considerations. Since changing conditions in the money market can be utilized effectively as a means of forecasting both major and minor movements of the general averages, it only remains to decide whether it is of any practical advantage to either investors or traders to be able to foresee turning points in the Combined Averages.

The school of thought that questions the practical utility of the Combined Averages points quite plausibly to the highly complex structure of modern market movements. The market has broken up into a great number of independent group movements, and within the group each component stock follows its own independent price path. We thus find groups moving simultaneously in opposite directions, and simultaneously price movements in individual issues that bear little relation, in magnitude or direction, to changes in their respective group averages. Of what possible value is it, they ask, to predict a rise in the Combined Averages, only to have the Railroad group decline, while a few merger rails advance, for example?

Those who defend the general averages also acknowledge that the market has become extremely complex, and admit the many cross currents; but they point out that the very process by which the general averages are computed is in itself a sufficient guarantee that the majority of stocks must move in the same direction as



## Study of "Group Movements" Is Essential

the Combined Average, or else the combined movement of those issues that conform with, must exceed that of those that oppose, the general market. In other words, if a person were to invest an equal sum of money in each of the 308 issues used in computing THE MAGAZINE OF WALL STREET'S unweighted price index, he would make money when the Combined Average advances, and lose when it declines. This is only another way of saying that it requires greater judgment to select stocks that move against the Combined Average than to hit upon those that move in the same direction as the general market; for chance obviously favors the investor who follows the main trend. This is an old rule that still applies, though with more exceptions than formerly. Were it otherwise the averages would not be true averages. This is a defense based upon simple arithmetic. The financial and industrial aspects of the question will be taken up in the following section. In the meantime let us revert a moment to Chart I.

It will be noted that the more important movements of the general market are almost uniformly opposite to the course pursued by graph (1). The only important exception was during the second and third quarters of 1925, which may be explained by the low discount rate then in force. Graph (1), read in conjunction with the prevailing discount rate, affords a rather simple method of detecting tightness or ease in the money market. Graph (1) rises as money tightens, and falls as it becomes easier. The denominator of this percentage ratio, (total earnings assets of the twelve Federal Reserve Banks) increases when the Federal Reserve Banks are throwing money into circulation through open market purchases of commercial notes, trade and banker's acceptances, and U. S. Government securities; and it decreases when bills in the System's portfolios are permitted to mature without being replaced, or when



## CHART II

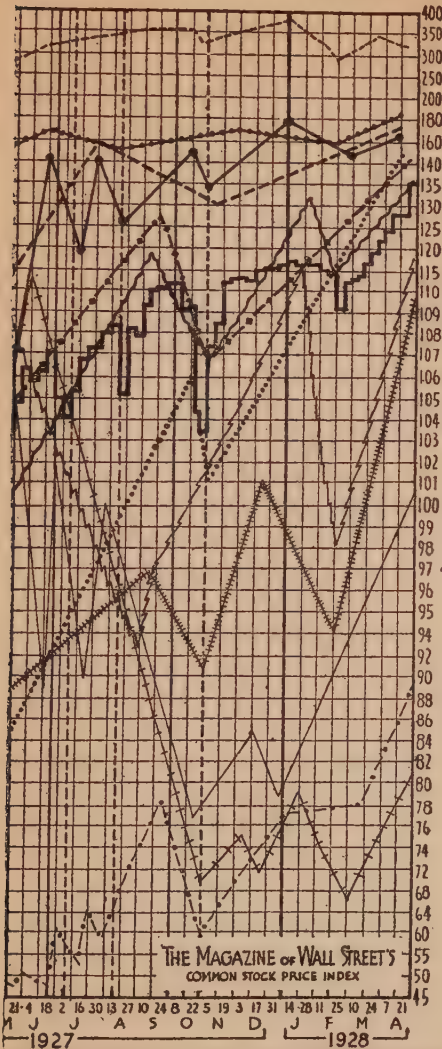
PRICE MOVEMENTS of  
MINOR GROUP AVERAGES  
compared with  
COMBINED AVERAGE

### KEY

- COMBINED AVERAGE
- ALCOHOL
- - - BUSINESS MACHINES
- ... CANS
- ~ CONSTRUCTION and BUILDING MATERIAL
- · - DRUGS and TOILET ARTICLES
- ELECTRIC APPARATUS
- · - FERTILIZERS
- · - FURNITURE
- · - MARINE
- ⚡ MOTION PICTURES
- · - SULPHUR
- W TEXTILES

⊕

PUZZLE  
FIND THE  
TREND!



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## New Technique of Uncovering Security Bargains

Government securities are sold. In other words, the graph declines when the Federal Reserve System, through its open market operations, puts more money into circulation; and the graph rises when the System's transactions in the open market withdraw money from circulation. An increase in the numerator of this percentage ratio indicates a tightening of money because it shows that member banks are obliged to borrow from the Federal Reserve System to obtain cash or strengthen their reserves. Member bank borrowings fall off, on the other hand, when money is more plentiful compared with the demand. Graph (1), as a barometer of the broader market movements, must be interpreted in the light of the discount rate; for a relatively low rate may induce member banks to borrow from their Federal Reserve Banks and loan the money out again to brokers. The rise in Graph (1) at such times would thus convey a false impression of money stringency. The graph is only of secondary value in forecasting minor swings in the Combined Averages.

### The Group Averages

Chart II, together with Charts that accompany Chapters VI to XIII (which should be consulted when reading the present section), show the graphs of most group indexes of *THE MAGAZINE OF WALL STREET'S Common Stock Price Index* for which a complete two years' record is available. Chart II is a very good picture of the modern stock market. Superficially, it looks like a skein of price paths hopelessly tangled without rhyme or reason. Close study and observation, however, will enable one to separate the threads and discover certain general principles by which their course is determined.

It will be observed that all the groups are more or less influenced by price movements of any considerable

## Study of "Group Movements" Is Essential

magnitude in the Combined Average. Minor movements in the general market may or may not leave a readily discernible impress upon a group average. Nearly all the group averages pursued a downward course during the first four months of 1926, advanced for about three months, declined during the following three months; then followed an irregularly upward path until the summer of 1927, turned downward until the end of October, advanced for several months, declined quite sharply until the middle of February, 1928, then advanced again up to the time of present writing (end of April).

Turning points in the group averages may occur several weeks before or after the corresponding turning point in the Combined Average, though much greater diversity among the various groups, as to the time of turning, is shown at the top than at the bottom of a move. This explains why the Combined Averages generally show several weeks of premonitory hesitation before turning downward, whereas the end of a downward reaction usually comes without warning. Another way of expressing this observation is that the approach of an important reaction is usually heralded by a sharp preliminary decline in one or two groups—frequently, even, by the collapse of one or more over-manipulated stocks. The reason for this marked contrast between top and bottom turning points is that the beginning of almost every rise in prices is instigated by short covering, whereas downward movements of importance usually start after distribution by pools and manipulators has reached an advanced stage. Big bears are far more timid than the big bulls, especially after several years' of experience in such a buoyant market as we have witnessed since the middle of 1924. When it comes to the minor week-to-week price movements, however, the writer has observed diametrically opposite characteris-



## New Technique of Uncovering Security Bargains

tics—more groups and individual stocks move in sympathy with minor set-backs in the market than with minor rallies. This is because most of the little bulls are more easily frightened into selling out than coaxed into buying.

Although, broadly speaking, the group averages usually follow the general market in direction, price movements among different groups are by no means uniform in magnitude.

During the prolonged rise in the general market, for example, that extended from the fall of 1926 until the fall of 1927, the Combined Average advanced about 25%, Business Machine stocks rose 72%, Cans 22%, Construction & Building Material issues 25%, Drugs & Toilet Articles 14%, Electrical Apparatus 14%, the Fertilizer group 57%, Sulphur stocks 127%, and the Alcohol group 61%. Marine, Motion Picture, and Textile Stocks, on the other hand, advanced during the earlier part of this period and declined quite precipitously during the later part.

Readers who are familiar with developments in these industries during the past few years will have little difficulty in explaining why stocks in some of the groups moved ahead more rapidly than the general market, while others lagged behind, or even declined. Sulphur stocks, for example were strongly stimulated by rising prices and expanding markets for their output, together with diminishing unit cost of production. Similar considerations, in a lesser degree, applied to Alcohol and Business Machine issues, with a dash of merger stimulant thrown in. The Alcohol group was further benefited by Government intervention to limit overproduction, and prospects that one of the companies would succeed in disposing advantageously of a huge stock of pre-War whiskey. Electrical Equipment stocks were held back by a moderate decline in new business

## Study of "Group Movements" Is Essential

during the latter half of 1927; and Drug & Toilet Article issues were merely resting after their sharp advance during the summer of 1926. The marked reversals in Marine, Motion Picture, and Textile stocks during this period, were obviously in response to corresponding changes in the earnings outlook for their respective industries that took place during the spring of 1927.

We thus see that each group is subject to two sets of influences—those that bear upon the general market, namely, conditions in the money market, and influences that are peculiar to the group alone. (When conditions applicable to any specific group are favorable, stocks in that group will advance more rapidly than the general market when it advances, and will decline less rapidly, or even advance more or less, when the Combined Average declines; and *vice versa*. When group influences are neutral, the group will merely rise and fall with the general market.) Among influences that affect group movements there must be included, not only the business outlook for the industry in question, but also a number of technical considerations involving the mechanics of price movements which will be considered in Chapter V. For the time being, we shall overlook all market influences arising from the so-called "Technical position", and fix our attention upon the two most important forces that direct price movements—*money* and *outlook for the industry*. The problem of forecasting group movements then resolves itself simply into the task of weighing the relative directions and comparative strengths of these two forces. It is of such vital importance for the investor to grasp this conception that it will pay to consider the idea in another form.

The stock market may be likened to a number of railroad trains, each with a locomotive coupled to each end, running on parallel tracks. Each train is an in-

## New Technique of Uncovering Security Bargains

dustrial group. The locomotives at the front of each train are all alike, and all pulling or pushing in the same direction and with the same tractive effort. Each represents the pull or push of the money market on the various industrial group averages. When one of these engines at the front of a train pulls forward with a force of 50 tons, each of the other money engines also tugs forward at its own train with a force of 50 tons. When one reverses and pushes backward with a force of 25 tons, they all reverse and push backward with a force of 25 tons. But, at the rear of each train there is also attached another engine, representing the industrial outlook for that particular industry. The tractive efforts of these industrial engines are by no means alike, either in direction or intensity. Before the War they did co-operate with the money engines, although more or less tardily; but of recent years each pursues its own efforts to move the train, regardless of what is going on in the cab ahead. If both engines pull, or push, in the same direction their train moves very rapidly; but when one tries to move its train in one direction and the other tries to move it in the opposite direction, then the outcome will depend upon which engine is exerting the heavier tractive effort. But, in whichever direction the train moves, its speed will be less than when one engine closes its throttle, and still less than when both work together.

The Combined Average is nothing more than the average speed of all the trains. When the industrial engines nearly all pull in the same direction with the money engines, as was usually the case before the War, movements in the general averages will be extremely pronounced because all the trains move in the same direction. On the other hand, when about half the industrial engines pull with the money engines, while the others pull in an opposite direction, their influence

## Study of "Group Movements" Is Essential

upon the combined movement is about neutralized and this leaves the general market responsive to the money engines alone. Of recent months (dating from the middle of February, 1927) it so happens that a marked turn for the better has taken place in a number of leading industries—including Steel, Automobiles, Construction, Petroleum, and Railroads. This coincides with the continuance of a comparatively favorable outlook for money. The result, as might be expected, has been a rise in the Combined Averages that is without precedent in stock market annals. Some market commentators attribute this to the favorable long-pull outlook for money, others think it is due to improved industrial prospects. Both are right in this instance; but, if it ever comes to a contest again between a scarcity of money and industrial prosperity, money will reverse the market, as it always has in the past, so far as the Combined Averages are concerned.

### Practical Applications

With the foregoing distinctions between monetary and industrial factors clearly in mind, a spec-investor who wishes to keep his funds employed at maximum efficiency, and with the minimum of risk, will readily appreciate the practical value of the following RULES FOR

#### Successful Spec-investment:

1. Never buy common stocks when the outlook points to a scarcity of funds available for Wall Street loans. You may be shrewd enough, or lucky enough, to buy stocks that will advance while the general market is declining; but it is far safer to put your money into short term notes, until conditions ease in the money market.

## New Technique of Uncovering Security Bargains

2. When prospects for easy money become favorable again is the time to buy stocks for appreciation in market value; but commitments should be confined to industries that enjoy a favorable outlook. It sometimes happens, to be sure, that manipulation plus easy money will succeed in marking up securities in an industry whose outlook is not favorable; but it is needlessly risky to try to catch such moves. The easiest, safest, and fastest train to board is one driven by the two engines, "Money ease" and "Rosy industrial outlook", both headed toward "The Land of Profit".

### Industrial Barometers

Although many of the old fundamental statistics that used to be employed as business barometers are no longer of value in forecasting the general market, most of those that relate to specific industries are still useful within their own circumscribed limits. This is a subject of such great importance, however, that it must be left for later Chapters.

### Seasonal Influences

There are many products for which the demand varies widely with changing conditions of the weather, or the incidence of important holidays, such as Christmas, Easter, Thanksgiving, the summer vacation days, etc. Most industries, in fact, are affected more or less directly by seasonal and calendar influences. Among the most conspicuous of these are, coal, ice, underwear, furs, refrigerators, automobiles, sugar, department stores, sporting goods, ice cream, soft drinks, construction materials and supplies, the railroads, etc. Other factors being equal, the best time to buy stocks in such industries is around the onset of their busy season.



## Study of "Group Movements" Is Essential

There is a noticeable tendency, however, for seasonal movements in the securities of such industries to become less pronounced as investors learn more and more to compare quarterly earnings with the corresponding quarter of the year before, rather than with the immediately preceding quarter.



## CHAPTER III

### Double Trends in Individual Groups

**I**N the preceding Chapter it was shown that, neglecting purely technical influences, each important industrial group moves under the combined impetus of two distinct forces—the current and prospective condition of the money market, and the current and prospective condition of the industry. Of these two leading forces money is usually the more influential. Unfavorable conditions in the money market are more powerful than favorable conditions. A group may decline, despite a favorable money situation, when conditions in the industry are unsatisfactory; but the outlook for an industry must be exceptionally promising to produce an advance in its group index when conditions in the money market are unfavorable. This is why it is safest to wait for a relaxation of tight money before buying stocks.

### The Averages

The reader will derive a clearer conception of how the foregoing forces act to produce price movements if he will take the pains to look for a moment into the structure of *THE MAGAZINE OF WALL STREET'S Common Stock Price Index*. Unlike other published price indexes, this is both comprehensive and unweighted, and thus presents an approximately true average of the market as a whole. It is a simple average of all the price indexes of each component issue.

# New Technique of Uncovering Security Bargains

Each is supposed to begin the year at 100. Hence it follows, from the very method of computing the Index, that about half of its component issues will, at any time, show a price index less than the Combined Aver-

TABLE I

THE MAGAZINE OF WALL STREET'S Common Stock Price Index  
(1926 Closing Prices = 100)

Group	1927 Closing Index
Sulphur .....	229.7
Alcohol .....	206.0
Shoe and Leather .....	198.2
Agricultural Implements .....	175.9
Mail Order .....	169.7
Biscuit .....	155.0
Soft Drinks .....	152.9
Tire and Rubber .....	150.0
Copper .....	149.8
Fertilizers .....	148.7
Business Machines .....	146.8
Five and Ten Cent Stores .....	143.1
Furniture .....	139.1
Cans .....	134.5
Public Utilities .....	134.5
Railroads .....	134.0
Electric Apparatus .....	129.4
Restaurants .....	127.8
Railroad Equipment .....	127.2
Chemicals and Dyes .....	125.9
<b>COMBINED AVERAGE</b> .....	<b>121.5</b>
Construction and Building Material .....	119.2
Telephone .....	118.4
Tobacco .....	117.8
Automobiles .....	117.5
Automobile Accessories .....	116.7
Steel and Iron .....	111.3
Drugs and Toilet Articles .....	106.3
Coal .....	103.4
Department Stores .....	101.5
Petroleum and Natural Gas .....	100.3
Marine .....	94.1
Household Appliances .....	93.8
Motion Pictures .....	89.3
Dairy Products .....	88.0
Textiles .....	85.4
Traction .....	83.1
Sugar .....	79.9
Baking .....	69.4

NOTE:—These indexes are not the same as those published in the Magazine; for the latter are based upon 1925 closing prices = 100. The one set is directly proportional to the other, however.

## Double Trends in Individual Groups

age while about half will be greater than the Combined Average. This principle extends even to the group indexes, as will be observed from Table I., in which the groups are arranged in the order of magnitude of their 1927 closing prices (1926 closing prices in each instance being taken as 100).

The Table shows that 20 groups closed the year higher than the Combined Average, and 18 lower. The dispersion was very wide. Sulphur stocks, as a group, registered the greatest improvement during the year, with a gain of 129.7%, which was 88.8% more than the improvement of 21.5% in the Combined Average. Baking stocks ended at the bottom of the list with a decline of 30.6%, which was 42.9% behind the Combined Average. Readers who are familiar with developments during 1927 will readily see that price changes in this Table are a fairly good reflection of changes that took place during the year in the outlook for the various industries, so far as it was possible for the Nation's army of investors and traders to appraise the significance of information available up to the year's close.

With due allowance for the fact that stocks sell at any given time for what the consensus of market opinion believes them to be worth, not necessarily for their true value, we may observe that groups that advanced more than the Combined Average were those whose conditions and prospects improved more rapidly than the average during the year, while those that failed to keep pace with the Combined Average were the ones upon which Fortune conferred less than average benefits during the year. This method of using the Combined Average as a moving base from which to measure the progress of a group is far more enlightening than the old idea of comparing progress with a fixed point; for it serves to eliminate, not only money influences—which affect all groups equally—but also the



## New Technique of Uncovering Security Bargains

secular progress of the Nation's business as a whole.) Had it not been for these general influences which, as reflected in the Combined Average, contributed 21.5% to the movement in each group, Sulphur stocks would have advanced only 88.8%, for example, while Baking stocks would have declined 42.9%, instead of 30.6%. Easy money and the ever growing wealth and population of the United States serve to accelerate the advance in stocks of favored industries, and to lessen the decline in stocks of industries which are—for the time being, at least—not prosperous.

The device of using the Combined Average as a moving reference upon which to base comparisons enables one to account for a number of seemingly anomalous situations in the stock market. The fact that the Petroleum group index actually advanced 0.3%, for example, despite the unsatisfactory state of the industry, might occasion some surprise were it not noted that, compared with the Combined Average, the group was off 17.4%. It will be recalled, however, that a few natural gas companies and some independents who brought in new low cost wells are included in the index, and such companies did not fare so badly last year. The Tobacco group affords another instance of the practical value of this method of comparison. The majority of leading companies in this industry undoubtedly prospered last year: why did its group index advance less than the Combined Average? A shrewd observer would discover in this contradiction a hint of growing competition. The comparatively high position on the list occupied by the Fertilizer group was attributable, not to current prosperity, but to improved prospects arising from the recovery of Southern States from the late collapse of cotton prices and the Florida real estate boom. If space permitted, we might go on multiplying examples indefinitely; but perhaps these

## Double Trends in Individual Groups

may suffice to pave the way for certain practical applications.

1. The future outlook for an industry is almost exclusively responsible for the rate at which its group index moves in relation to the Combined Average.

2. When a group lags behind the Combined Average, it is well for the investor to search diligently for clouds on the horizon, and to determine if they are likely to grow larger and more ominous.

3. If a group suddenly begins to rise more rapidly than the Combined Average, there are reasons which it will well repay the investor to discover and appraise promptly. It may be due to short covering, or merely false rumor; but usually the cause will be located in some turn for the better in the outlook for the industry. Having started on such an inquiry, one should be wary of accepting too readily the glib explanation of short covering. Many of the most profitable upward movements in the stock market receive their initial impulse from short covering. Big bears seldom cover without reason.

## Market Progress of Individual Issues

Let us suppose that we have now reached the point where current conditions in the money market favor the purchase of common stocks for price appreciation, and that a study of the outlook for a number of different industries leads us to settle upon a few that seem most promising. How, then, are we to invest to greatest advantage? Preliminary to answering this question let us break up a typical industrial group into its constituent issues and examine their price movements, much after the manner of our analysis of the group indexes through aid of Table I. For this purpose we select the Railroad group for 1927, though almost any

# New Technique of Uncovering Security Bargains

other important group would lead to the same general conclusions.

TABLE II

## Railroad Group

THE MAGAZINE OF WALL STREET'S Common Stock Price Index  
(1926 Closing Prices = 100)

Stock	1927 Closing Index
Western Maryland .....	345.1
Wheeling and Lake Erie .....	251.1
Chicago, Milwaukee and St. Paul .....	213.5
Texas and Pacific .....	179.6
Chicago, Rock Island and Pacific.....	163.0
Erie .....	160.6
Wabash .....	156.0
Chicago, Great Western .....	153.0
New York, New Haven and Hartford .....	144.6
Kansas City Southern .....	142.9
Missouri Pacific .....	135.9
<b>GROUP INDEX .....</b>	<b>134.0</b>
Western Pacific .....	128.5
St. Louis-Southwestern .....	126.0
New York, Ontario and Western .....	125.3
Canadian Pacific .....	124.9
Chesapeake and Ohio .....	124.8
Missouri-Kansas-Texas .....	124.8
Northern Pacific .....	124.8
Great Northern Preferred.....	121.4
<b>M .....</b>	<b>M</b>
Norfolk and Western .....	119.9
Union Pacific .....	118.2
Southern Railway .....	117.5
New York Central.....	113.8
Atchison, Topeka and Santa Fe.....	113.5
Pennsylvania .....	113.4
Delaware, Lackawanna and Western.....	113.0
Southern Pacific .....	112.2
Pere Marquette .....	111.0
Baltimore and Ohio .....	108.5
Illinois Central .....	108.3
Reading .....	108.3
Pittsburgh and West Virginia.....	108.0
St. Louis and San Francisco.....	107.5
Chicago and Northwestern.....	106.5
Atlanta, Birmingham and Atlantic .....	100.0
Lehigh Valley .....	93.4
Atlantic Coast Line .....	90.2
Seaboard Air Line .....	81.1

Hasty inspection of the wide dispersion in price movements arrayed in Table II might lead one to question the value of all price indexes and market averages.

## Double Trends in Individual Groups

With a year's price changes in the 38 rails ranging all the way from a decline of 18.9% in Seaboard Air Line to an advance of 245.1% in Western Maryland, of what possible practical value can it be to learn that the Railroad group as a whole registered an average advance of 34.0%? Such criticism wholly overlooks the many profitable deductions that may be drawn from a careful analysis of group movements. It is perfectly true that there is frequently a very wide diversity in price movements among individual issues within a group, and that it is poor policy to buy any railroad stock at random merely because conditions point to an advance in the railroad group. On the other hand, there was obviously less risk in random purchases of railroad stocks last year (1927) than in buying almost any of the bread baking stocks whose group index *declined* 30.6.

A line of reasoning similar to that followed in analysing the group movements of Table I shows that, had the Railroad group index remained stationary in 1927, the year's advance in Western Maryland, for instance, would have been only 157.7%, whereas the decline in Seaboard Air Line would have been 39.5%, instead of 18.9%. In other words, current and prospective conditions in the money market accounted for 21.5% of the movement in each individual railroad stock last year, current and prospective conditions in the railroad field accounted for an additional 10.3%, while the remainder of the year's net price change in individual railroad stocks was attributable to special, and widely divergent, circumstances affecting the current and prospective position of each separate railroad issue.

Closer scrutiny of Table II will afford a clearer conception of the three important groups of forces—Money, Industrial Conditions, and Special Circum-

## New Technique of Uncovering Security Bargains

stances—which determine the price movements of individual issues. Table II is conspicuously “short-waisted” in comparison with Table I. There are only 11 stocks that advanced more than the group average, whereas 27 lagged behind. This is accounted for by the extreme violence of the advance in a few stocks, that head the list, in response to merger buying and marked improvement in their earnings outlook. Had it not been for these exceptional influences, the group average would have appeared, about half way down the list, near the position occupied by the median line, “M—M”. It is interesting to observe that this median line is about at the level of the Combined Average (121.5, Table I), which indicates that the Railroad group would have moved almost exclusively under the influence of conditions in the money market had it not been for the added stimulus of merger activities and greatly improved earnings of perhaps a dozen roads. This added stimulus accounts for the difference in price level between the group index and the median line.

It is especially significant in this connection that seasoned dividend payers which for years have been classed among the most conservative of investments—such as Canadian Pacific, Northern Pacific, Great Northern Preferred, Union Pacific, New York Central, Atchison, and Southern Pacific—advanced less than the average, hovering instead about the median line. This is in keeping with an important principle which spec-investors will do well to adopt as a guide: “Seasoned dividend payers in the investment class sell on a yield basis that moves with the money market. Unseasoned issues with a history of irregular earnings and dividend rates, respond more readily to changes in their earnings outlook.” For this reason the spec-investor will usually find it more profitable to buy stocks of a more speculative character at a time when their pros-



## Double Trends in Individual Groups

pects point to a decided improvement in earnings, or perhaps inside buying for control.

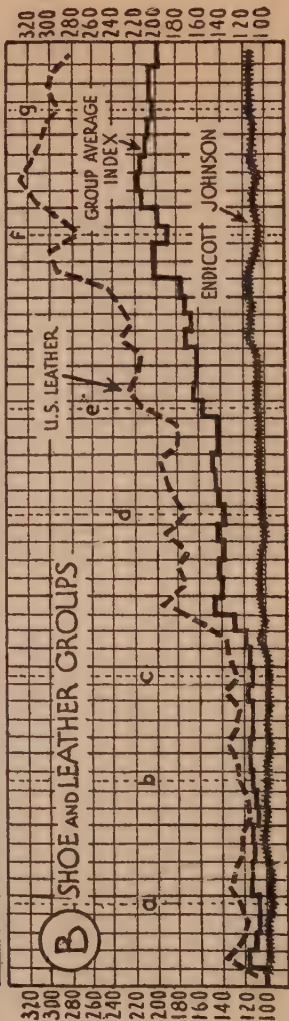
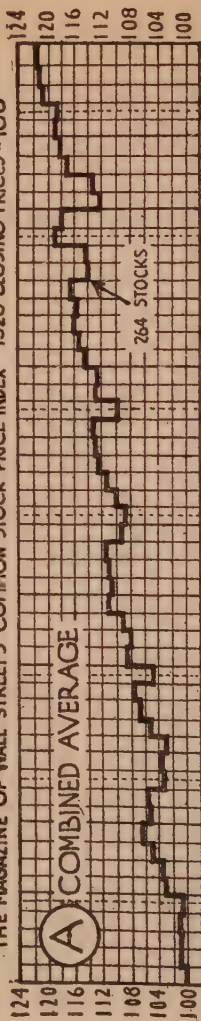
Before leaving Table II the reader may find it worth noting that practically all the roads near the bottom of our list are either coalers, whose earnings were impaired by last year's drop in coal shipments; or else southern roads whose traffic was adversely affected by the 1926 fall in cotton prices and by the deflation in Florida Real Estate. The reader will find that the best possible test of his ability to evaluate such special influences will be to re-arrange the roads in this list in the order that he thinks they will stand three months, six months, or a year from now; then put his list aside and compare it later with actual developments. No one can possibly predict the precise order in which the roads will rank on such a list at any future date; but so long as the roads he allocates to the upper quarter of the list do not actually line up within the lower quarter of the list after the lapse of a few months, he is in a fair way to qualify as a successful spec-investor.

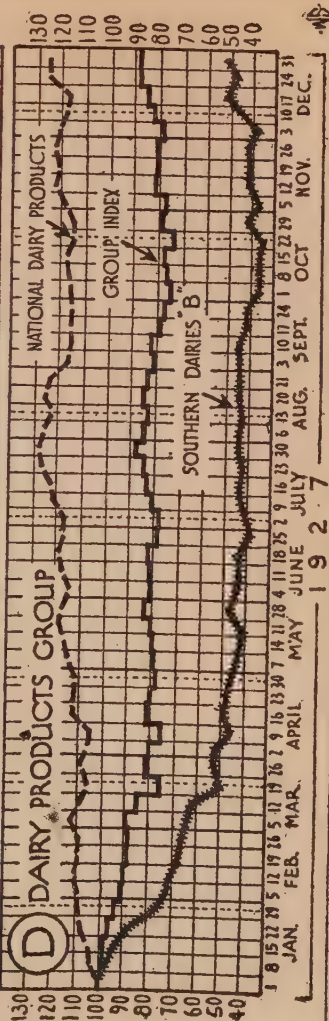
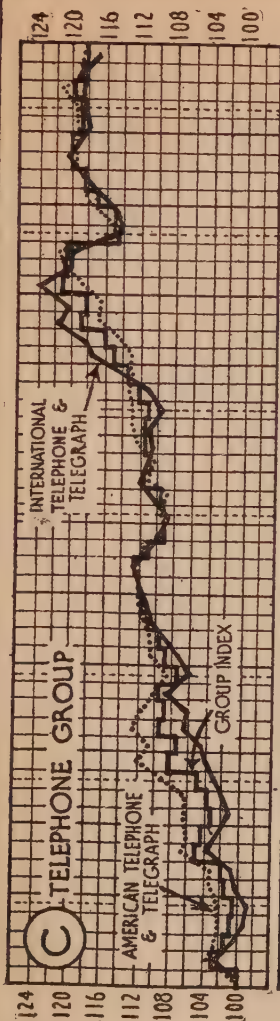
## The Three Groups of Market Influences

In order to convey some conception of how the three chief market forces—Money, Industrial Conditions, and Special Circumstances—mold the price paths of individual stocks over periods of time shorter than a year, we have prepared Chart III, in four sections. Section "A" shows the Magazine's Combined Average for the calendar year, 1927. Sections "B", "C", and "D" present the graphs of three different groups: each section including its group index and the price paths of its component issues, reduced to an index based upon 1926 closing prices as 100. The group index in section "B" advanced during the year much further than the Combined Average; while group index, "D", lagged

# CHART III THE THREE GROUPS OF INFLUENCES THAT GOVERN PRICES OF INDIVIDUAL STOCKS

THE MAGAZINE OF WALL STREET'S COMMON STOCK PRICE INDEX 1926 CLOSING PRICES = 100





## New Technique of Uncovering Security Bargains

conspicuously behind; and the group index of "C" closed the year on about the same level as the Combined Average. We have chosen groups that contained only two stocks each, to avoid complicating the drawing.

A close study of this Chart should enable one to draw several useful observations and conclusions concerning the manner in which the three chief market forces react upon individual stocks.

1. The market's progress is interrupted from time to time, at average intervals, of about two months, by reactions brought about by passing disturbances in the money market. There were seven such reactions in 1927, indicated on the Chart by vertical lines, "a" to "g". Intervals between these reactions are known as "Spec-investment Cycles".

2. Nearly all group averages and individual stocks participate in the Spec-investment cycles, to a greater or less extent. The bottoms of a reaction among the various group indexes and individual stocks coincide more closely with the bottom of the reaction in the Combined Average than do the various tops.

3. Week-to-week fluctuations in individual stocks conform more closely to corresponding price changes in their respective group indexes than to fluctuations in the Combined Average.

4. Stocks for which the outlook is more favorable than the average in their industry usually advance more rapidly than the group index when it rallies, and decline less rapidly than the group index on reactions. The opposite behavior may usually be observed in individual stocks that are under the influence of an outlook less favorable than the average in their industry.

5. Special circumstances that apply to an individual stock frequently exert a greater influence upon its price movement than either money or conditions in the industry, especially when all three of the chief market

## Double Trends in Individual Groups

forces act in the same direction. Readers who are familiar with the situation will readily understand, for example, why the strong hide and skin market of 1927 was reflected in a much greater rise in U. S. Leather than in Endicott-Johnson.

In the next Chapter we shall consider in greater detail the rather complex character of the three chief classes of market forces, and how a thoroughgoing analysis of their various aspects will enable one to recognize Spec-investment opportunities.





## CHAPTER IV

### Principles of Individual Selection

**I**N a bull market, anyone with enough capital to diversify widely can make good profits. Since the beginning of 1925, THE MAGAZINE OF WALL STREET'S *Common Stock Price Index* has risen 39.7% (up to May 9, 1928). This means that, if a person had bought a large number of well diversified common stocks at the close of 1925, investing an equal sum of money in each issue on a reasonably conservative margin of  $33\frac{1}{3}\%$ , and redistributed his enhanced funds equally at the close of each year, he would now have a profit of  $3 \times 39.7\%$ —namely 119%. This is at the annual rate of about 35%, compounded quarterly, without any allowance for cash dividends. The only mental qualifications required were patience, and ability to recognize that it was a bull market. In order to keep these profits, however, it will also be necessary for the spec-investor to know, in due time, when the bull market is over.

The ordinary spec-investor, however, lacks the capital to diversify over a sufficient number of issues to insure that his stocks will move with the general market. He is obliged to carry only a few issues at a time. To select a limited number of issues successfully calls for intelligent and experienced discrimination. The ordinary spec-investor must know not only whether he is in a bull or bear market, but also which industries are on the up grade and which are stationary or slipping backward, and be able to distinguish between

## New Technique of Uncovering Security Bargains

the growing and the stationary or retrogressing companies within the same industry. If a spec-investor's skill in selection was above the average, his profits should have exceeded 35% yearly since 1925: if materially less than 35%, the fault lies with himself, not with the market.

### Money Influences

The importance of conditions in the money market can scarcely be overstressed by the spec-investor. Money influences affect the price movements of securities through a number of different channels, both directly and indirectly. In studying these influences one should consider not only interest rates, but also the supply of money.

Rates for time money exert a direct influence upon the market price of all securities which sell on a yield basis. This applies to all high grade securities, with a fixed—or even stable—rate of disbursement, such as bonds, many preferred stocks, and a few common stocks of investment standing. Among the latter, for example, are certain railroad stocks, mentioned in Chapter III, which have paid dividends for many years without interruption. Obviously, the price of any of these issues to yield, say, 3% would be twice as high as when selling on a 6% yield basis.

Even here, however, interest rates are not the only market price determinant; otherwise all investment stocks would sell on the same yield basis. Other considerations, such as security of principal and income, also play a part. Generally speaking, bonds sell on a lower yield basis than preferred stocks, and preferred stocks sell on a lower yield basis than common stocks. Furthermore, yields in one industry will differ from those in other industries, and still wider variations in

## Principles of Individual Selection

yield will be found among individual companies. These differences are best observed by comparing the yields of different securities issued by the same company. At present writing (May 17, 1928), for example, Atchison gen. 4s, '95 are selling at  $96\frac{3}{8}$ , to yield about  $4\frac{1}{8}\%$ , which happens to be the rate currently asked for 6 mos. bankers' acceptances; Atchison 5% Preferred stock is selling at 107, to yield about  $4\frac{2}{3}\%$ ; while Atchison Common stock, paying \$10, is selling at 195, to yield about  $5\frac{1}{8}\%$ , which happens to be the current rate asked for 60-90 days time loans.

Evidence presented in Chapters II and III points strongly to the conclusion that all common stock prices are influenced to some extent by the rate for time money. *There seems little doubt that, other considerations being equal, any common stock will sell higher during a period of low interest rates than when money is dear.* As previously stated, the money engine exerts the same pull, or push, on all securities. Among the more highly speculative issues, however, other powerful influences—notably changes in earning power—may so obscure the interest factor that its presence can be detected only through an analysis of the averages.

Interest rates act indirectly upon common stock prices through their influence upon corporate earnings. During periods of cheap money corporations are not only able to raise new capital through the issuance of securities on a low yield basis; but also resort quite extensively to refunding operations whereby fixed charges are reduced through substitution of low interest bearing for higher interest bearing stocks and bonds. Operating expenses also are reduced by lower interest payments on current liabilities. Periods of dear money, on the contrary, tend to reduce the amount of net income applicable to common stocks by adding to fixed charges and operating expenses.

## New Technique of Uncovering Security Bargains

The manner in which the supply of money influences common stock prices is a rather complicated subject, quite distinct from the matter of interest rates. This is a point which critics of the bull market have generally failed to grasp. The direct influence exerted by the supply, as distinct from the price, of money may be summed up in the thesis that stocks try to discount the future, but frequently fail for lack of adequate credit to finance the consequent bull market. In this process of discounting the future, many stocks undoubtedly overshoot the mark; for human foresight is far from infallible. The stubborn fact remains, however, that there are always to be found in the market quite a sizable group of stocks that never do discount the future adequately, for the simple reason that there never has been enough money in the country to finance a truly prophetic bull market. These, of course, are the stocks that a spec-investor should always endeavor to select and hold, without heed to Mrs. Grundy, who is always warning that they are too high. They are the common stocks of certain large corporations that never seem to stop growing. In Table I is presented a striking example of this principle.

TABLE I

### GENERAL MOTORS

*A Stock that did not Discount the Future*

Year		Cost at Beginning of Year	Sold at End of Year for	Profit on Investment	Cash Dividends Received	Total Return on Investment	
						\$	%
1926	....	\$117.50	\$230.00	\$112.50	\$18.25	\$130.75	111
1927	....	154.00	275.00	121.00	14.50	135.50	88

Prices at the end of the year, as given in Table I, include the 50% stock dividend paid in 1926 and the 2 for 1 split up in 1927. Looking backward, even Mrs. Grundy must admit that a stock which yielded 111% in 1926 and 88% in 1927 was not then over priced;



## Principles of Individual Selection

but some of her family still complain that the recent price of 200 was dangerously high, since it sold at only 138 scarcely six months before. Stripping off the camouflage of stock dividends to expose the bare facts, as reproduced in Table II, should dispel such misgivings.

TABLE II  
*The startling growth of General Motors*

<i>Year</i>	<i>Price end of period</i>	<i>Earned per share</i>	<i>Price times earnings</i>
1925	39½	6.38	6.13
1926	76½	9.68	7.94
1927	138	12.99	10.62
1st Quarter—1928	200	3.86 vs. 2.90	11.57 (Estimated)

With a number of stocks now selling at 15 times earnings, and higher, the wonder is not that General Motors has advanced so rapidly, but why it has taken so many years to discount even current earnings—not to mention probable earnings several years hence.

There are other stocks—some more, others less, striking than General Motors—which are now doing their very best to look forward one, five, even ten years into the future; but their progress is ever retarded by the clamor that prices are too high, and brokers' loans too huge.

The view here expressed is so at variance with conservative counsel emanating from well informed and responsible quarters, that it is well to look quickly at the other side of the picture. In excited bull markets such as we are now witnessing, when the public takes the bit in its teeth, many stocks are carried with the tide to heights that discount a degree of prosperity which will never materialize. This is bound to end sooner or later in a tragic period of violent deflation; because common stock prices must, in the long run, be supported by earnings. There is always some limit, moreover, beyond which, for the time being at least, banking authorities will not permit brokers' loans to expand.

## New Technique of Uncovering Security Bargains

Such conditions invariably lead to at least a major reaction in which stocks that have not discounted their potential value decline, although not so severely, as stocks that have discounted only phantom earnings. But the good stocks will come back eventually and climb to new heights, where as stocks with no real prospects may never recover. This is why it is so important for the spec-investor to select his purchases with keen discrimination. Let him learn to forecast such major reactions, if possible; but in any event avoid being caught with over inflated issues.

During the past two years THE MAGAZINE OF WALL STREET'S *Common Stock Price Index* has advanced 68%. This has been accompanied by a rise of 87% in brokers' loans, as reported through the Federal Reserve Board. The difference is accounted for by new listings; for brokers' loans during this period have maintained an almost constant ratio to the aggregate market value of listed stocks. It is thus reasonable to suppose that a continuation of the present bull market for another two years on the same scale would necessitate a further expansion of 87% in brokers' loans beyond the present level of  $4\frac{1}{2}$  billion dollars. This would absorb an additional credit of nearly 4 billions. Would our present banking system be able to meet such rapid expansion in credits, especially if accompanied by a proportionate increase in commercial loans, and a continuation of the present outward movement of gold? Whatever the answer to this question, there is bound to come a time when all the credit slack will be taken up.

The supply of money also exerts an indirect influence upon common stock prices, the nature of which depends upon the use to which the increased supply is put. If the money is used to increase production, or productive capacity, beyond the existing demand for goods, then the outcome will be keener competition,

## Principles of Individual Selection

falling commodity prices, and diminished profits. Hence the indirect influence of abundant credit upon the stock market may be in direct opposition to its direct influence. On the other hand, if a rapid increase in individual deposits is used to create an excess demand for consumers' goods, then the outcome will be a rise in commodity prices, speculation in inventories, and increased profits, until the tide turns. Here the indirect influence of a money plethora upon the stock market will reinforce the direct influence of abundant credit. This was a rather common occurrence during the later phase of typical bull markets prior to the War, for reasons outlined in Chapter I.

Critics of the foregoing discussion of money influences upon the stock market will point out that the supply and price of credit are closely related. Rising interest rates indicate a growing scarcity of available credits, and *vice versa*. This is true; but speculators do not care especially what they pay for security loans so long as the market continues to go up and money is obtainable at any price. Old habits of the Street will recall at least one bull market on 100% call money. It did not last long, and there was a terrible crash afterward when the supply of bank credit dried up completely; but the instance serves to illustrate the distinction. Rising interest rates are a caution signal that usually brings about a preliminary reaction in prices, frequently followed by a recovery to new high levels. A big bull market seldom turns into a primary bear market until loans for stock market purposes are practically unobtainable.

### Industrial Influences

Having satisfied oneself that conditions in the money market favor the purchase of stocks, the next step is to size up the outlook for various leading industries. The

## New Technique of Uncovering Securing Bargains

successful spec-investor will ever be on the alert to dispose of holdings in industries that have, for the time being, reached the apex of their prosperity, and to reinvest the proceeds in industries with favorable prospects. While there are wide differences in the degree to which individual companies share in an industry's prosperity, the fact remains that even a weak company will do better in good times and the strongest will earn less in hard times.

Since a number of the principal industries will be taken up more fully in Chapters VI to XIII, it will suffice here to mention only in general terms the chief factors that should be considered. From the spec-investor's viewpoint the analysis of an industry usually converges upon the paramount question of whether profits during the next few months seem likely to increase, decrease, or remain about stationary. The general formula for profits is gross income less expenses. Any influence that will increase gross income or cut expenses should be regarded as favorable, and *vice versa*.

Gross income is the product of selling price per unit times volume of business done, a simple fact that is frequently overlooked. It is not safe, for example, to buy a stock on the bare information that a company's plants are operating at capacity; because the prices at which this business was booked may have been so low as to result in diminished profits compared with a previous period. Neither is it safe to infer that profits are expanding merely because the results for one quarter promise to surpass those for the immediately preceding quarter. Every industry possesses a more or less seasonal aspect, so that profits for one quarter should always be compared with profits for the corresponding quarter of the year before.

A decrease in gross income eats more into profits

## Principles of Individual Selection

than a like percentage increase in expenses. Where, for example, normal profits are thirty cents on the dollar, a 20% decrease in gross income would reduce profits by 67%, whereas a 20% increase in operating expenses would cut profits only 47%.)

Volume of business depends upon the purchasing power of an industry's customers. In the steel industry, for example, gross sales are closely related to railroad purchases, and the amount of activity in the building, automobile, and oil drilling industries. Rapid extension of an installment selling policy within an industry, as took place in the automobile trade in 1926, stimulates sales until the newly created individual credit is absorbed. Rising prices are the outcome of some variety of monopoly, or quasi-monopoly. It may be either a natural or an artificially created shortage of the product. Stable prices for a finished product during a period when raw material prices are declining is only another aspect of a similar situation. An example of this at present writing would be almost any product sold under a nationally advertised tradename. Falling prices are the outcome of some form of competition. This may arise from actual or potential overproduction of the product, invasion of the field by some substitute, or a reduction in production costs by one or more leading concerns within the industry.

The chief items in operating expenses are labor, raw material, advertising and selling expenses, interest, and depreciation. Payrolls are easier raised than cut; but the latter may be effected indirectly by introduction of labor saving machinery. Strikes are costly to a company, but seldom exert much influence upon the stock market; because the expense is known to be of a non-recurrent nature, and frequently results in the solution of an unsatisfactory situation.

Raw material prices generally afford an important



## New Technique of Uncovering Security Bargains

clue to current and prospective profits in an industry; but it is important to distinguish between the effects of low prices and falling prices, and between high prices and rising prices. Low prices for raw material, if steadily maintained, add to profits, unless selling prices for the finished product are reduced enough to absorb the saving. Steady high prices have the opposite effect. Since most companies value inventories at cost or market, whichever is the lower, the effect of any sudden drop in the price of raw material is to reduce profits for the accounting period during which the decline occurs. Whatever was lost by writing off inventories, however, will appear as added profits in the subsequent period, unless selling prices of the finished product are reduced before the old inventory can be worked off.

Under ordinary accounting practise, however, *appreciation* in inventories adds nothing to the profits of either period unless accompanied by a rise in price of the finished product. This is a point about which a great deal of misunderstanding exists, even among experienced analysts. Swollen inventories are a potential source of heavy loss in times of falling raw material prices only on account of the probability that some concern, which has had the foresight to buy hand-to-mouth, will start a price cut on the finished product which all competitors will be forced to meet; or because of the possibility that customers will withhold orders in expectation of price reductions that seem inevitable.

Tire manufacturers are now confronted with the latter difficulty. It had been confidently expected that tire price reductions could be delayed until the majority of manufacturers had worked off their high cost inventories; but dealers have now adopted a policy of buying only for immediate needs which cuts considerably into the volume of factory sales. Large inventories during periods of rising raw material prices are frequently a

## Principles of Individual Selection

source of profits because at such times it is usually possible to raise prices of the finished product—sometimes by even more than the added cost of new raw material. It should be observed that any change in raw material prices can be offset by a proportionally smaller readjustment of finished product prices. The fact that customers seldom understand this principle frequently leads to extreme fluctuations in earnings out of all proportion to changes in raw material prices.

To illustrate, let us say that raw material costs \$3.00 in an article that normally sells for \$10.00. Other expenses amount, say, to \$4.00. Now, if raw material prices drop 10%, some customers might expect a 10% cut in the finished product price: this would cause a  $23\frac{1}{3}\%$  decline in profits. On the other hand, if raw material prices advance 10% customers may not grumble much over a 10% advance in finished product. In fact, the demand at such times may be so great that even a larger price advance could be effected. The result might be an increase of at least  $23\frac{1}{3}\%$  in profits. Under the conditions we have assumed, a 3% change in finished product prices would just offset a change of 10% in raw material prices. The fundamental fact to be born in mind here is that earnings are not primarily affected permanently by fluctuations in inventory values; but only by consequent adjustments in finished product prices. Another important point to consider in this connection is that contracts for future delivery of raw material, which are seldom noted in company reports, have the same influence upon profits as actual goods on hand—unless, as sometimes happens in times of violently advancing prices, the seller of raw material futures repudiates his obligations.

Low prices are, up to a certain point, a substitute for advertising. For this reason it is permissible to sense the imminence of keener competition when a number

## New Technique of Uncovering Security Bargains

of concerns within an industry greatly enlarge their expenditures for advertising. This was what happened last year in the tobacco industry, prior to the recent announcement of price reductions in cigarettes at wholesale, and publication of reports disclosing reduced earnings for cigar manufacturers during the first quarter of 1928.

Depreciation is a bookkeeping charge to expense that does not involve any actual outlay of cash until some future date. For this reason the depreciation account has frequently been the means of swelling or diminishing reported profits for a given period. By comparing the charge made for this item by a number of other similarly situated companies within an industry it is possible to arrive at a fair conception of what the true profits would be under a policy of normal charge for depreciation. A company that persistently makes excessive allowances for depreciation and depletion is building up concealed assets that may be revealed in due time when the management sees fit. The opposite policy serves to conceal accruing liabilities that may eventually lead to receivership.

### Selecting the Individual Stock

When it comes to the selection of individual stocks from an industrial group, or specialties that are subject to no group influences, one is confronted with the difficulty that market forecasting has not yet attained the dignity of an exact science. Perhaps it never will; for many flurries in individual issues—even important price movements—are due to heavy purchases by market operators or groups of traders, for personal reasons that may bear no ascertainable relation to inherent values. In the long run, however, the majority of issues strive to move at least in the direction of their

## Principles of Individual Selection

true worth, even though they never succeed in fully discounting the future. For this reason it is always the safest and, in most instances the most profitable, policy for a spec-investor to confine his purchases to stocks that have thus far made the least progress toward discounting future earnings and disbursements.

The safest and most profitable stocks to buy are hence those on which the earnings promise to increase most rapidly. A good general rule to keep in mind is that, where earnings per share increase or decrease rapidly, the market price always chases earnings; but seldom catches up until earnings begin to change less swiftly or even turn in the opposite direction. Examples of this principle are mentioned in the next section on the Out-of-line method.

It follows as a corollary that the largest and quickest profits are frequently to be made in specialties, or in the common stocks of companies that are emerging from red ink. The more common causes for sudden improvement in earnings outlook are change in management or control; new inventions, discoveries, processes, or methods of doing business; favorable legislation or court decisions; style changes; new business connections; increased prosperity among the Company's customers; or marked improvement in outlook for the industry as a whole.

The past year has witnessed many striking price advances arising from one or more of these causes. Among these are Kelsey-Hayes; Murray Corp.; Graham-Paige; Hupp; American Linseed; Bucyrus-Erie; Southern Dairies; Pathé Common; Warner Pictures; Mexican Seaboard Oil; Louisiana Oil Refining; Middle States Oil; Pierce Oil; Superior Oil; American & Foreign Power; Montana Power; National Power & Light; Public Service of New Jersey; Chicago, Milwaukee, St. Paul & Pacific; U. S. Leather; Ludlum

## New Technique of Uncovering Security Bargains

Steel; Otis Steel; H. R. Mallinson; Interboro Rapid Transit; Calahan Zinc & Lead; American International; Armour, Illinois; Park & Tilford; Radio Corp. of America; Victor Talking Machines; and Wright Aeronautical—31 of the 308 issues included in *THE MAGAZINE OF WALL STREET'S Common Stock Price Index*, all of which gained at least 50% in market price, and a few even several hundred per cent., within five months from the beginning of 1928.

Some of the startling gains among stocks in this class will not hold; for popular enthusiasm frequently over-discounts the possibilities. For this reason the spec-investor should be careful not to overstay his market. If he prefers longer term investments that call for less vigilance, the best plan is to purchase the common stocks of large companies that have a history of continual growth, and hold them until the rate of growth slows down, or until conditions in the money market threaten to end the bull market.

### The "Out-of-Line" Method

For each industry there is an average "Price-to-earnings" ratio at which stocks sell at any given time. Whenever this "Earnings Ratio" is conspicuously higher or lower than the average, it is well for the spec-investor to ascertain the reasons why. An exceptionally low Ratio may indicate that the company's affairs are on the down grade, it may indicate that conditions are now changing for the better after a period of dubious outlook, or it may turn out to be a situation in which earnings are increasing more rapidly than the market has been able to discount.

The "Out-of-line" method of recognizing bargains is illustrated in Chart IV as applied to five specialties, chosen at random, whose earnings per share increased



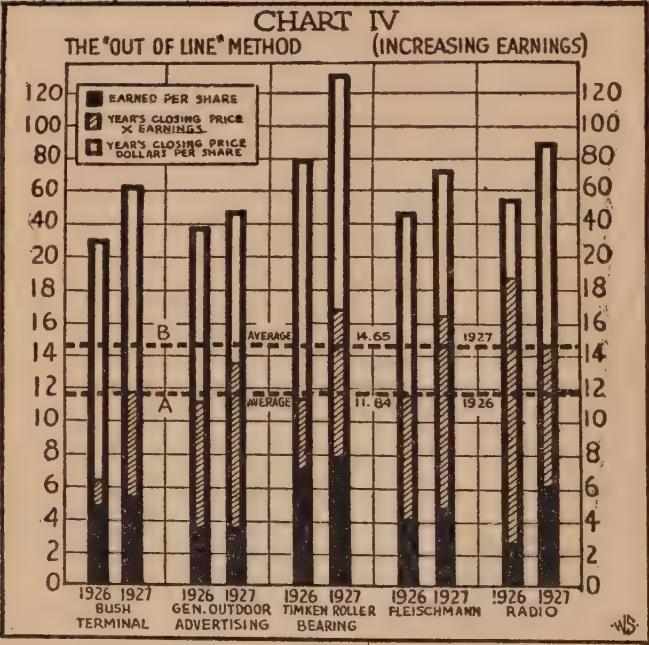
## Principles of Individual Selection

in 1927. In Chart V the method is applied to five random-selected specialties with decreasing earnings. Two sets of data are shown for each stock—1926 closing price and earnings per share, and 1927 closing price and earnings per share. In both charts, stocks are arranged from left to right in ascending order of their 1926 earnings ratio.

It will be observed that the average earnings ratios for the two years (lines "A" and "B") are about the same in both charts; although both averages are slightly lower for the group with decreasing earnings than for the group in which earnings increased. In Chart IV the average earnings ratio increased 23.7% during 1927, against an increase of only 17.8% for Chart V. The average increase for both groups was 20.8%, compared with the year's increase of 21.5% in *THE MAGAZINE OF WALL STREET'S Combined Average of 264 Common Stocks*. This shows, that, in addition to a wide variety of special factors, conditions in the money market exerted the same influence upon specialties that they did upon the general market.

At the lower end of the line in Chart IV stands Bush Terminal, with a market price of only 6.3 times earnings at the end of 1926. Within a year this ratio rose to 11.7 times earnings; still under the 1927 Ave. (line "B") of 14.65, however. At the upper extreme we find Radio, with its 1926 closing of 18.85 times earnings. That the stock was then overpriced is evidenced by the subsequent drop in this ratio to the 1927 Average, despite an increase in actual market price from 54 to 90½. Bush proved to be a better investment than Radio; for its market price advanced over 100% during the year, on an earnings increase of only 9%; whereas the market price of Radio rose only 67%, despite an increase of 116% in its earnings per share. The ratio test showed that Bush was undervalued,

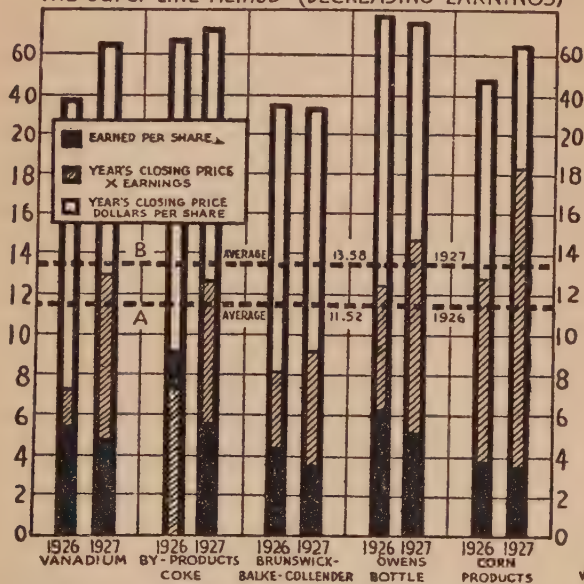
# New Technique of Uncovering Security Bargains



# Principles of Individual Selection

## CHART V

THE "OUT OF LINE" METHOD (DECREASING EARNINGS)



## New Technique of Uncovering Security Bargains

whereas Radio had—temporarily, at least—overdiscounted its prospects.

Similar considerations apply to stocks with decreasing earnings, as may be observed from a study of Chart V. The only stock in this group that would have yielded extraordinary profits was Vanadium, whose market price advanced within the year from 39 to 64 dollars a share. By-Products Coke, which was also obviously underpriced at the close of 1926, offers an interesting example of a stock whose market price advanced moderately (9%), despite a pronounced decline (from \$9.16 to \$5.68) in earnings per share.

The simple "Out-of-line" method, as here described, offers only an approximate standard by which to judge whether a stock has under- or over-discounted its true intrinsic value. It fails to allow for the fact that stocks whose earnings are increasing rapidly should sell on a higher "times earnings" basis than stocks whose earnings are decreasing, or increasing at a slower rate. Readers who may be interested in pursuing this phase of the subject further will find a more accurate method of determining the intrinsic value of growing common stocks described in Chapter XI of *"The Business of Trading in Stocks"*, published by THE MAGAZINE OF WALL STREET.

## CHAPTER V

### The Value of the Technical Position

**I**NVESTMENTS based upon a proper analysis of fundamentals and financial statements are bound to prove profitable, if held long enough for true values to assert themselves. It is the surest method of making money in the stock market. The stocks of strong, growing companies can be bought at any time, and at any price, if held outright "for the long pull".

But even the best of stocks follow a zig-zag price path. They go up for a period, then lose part of their gain—sometimes very quickly. Were it otherwise there would be no bargains in the stock market. Now and then one may observe a stock that remains undervalued for months at a time, even years, until something happens to awaken it into sudden activity. There are times too when even the best of stocks rise to heights that over-discount all reasonable prospects, and the spec-investor who buys at such levels is likely to be "hung up" for a long period while waiting for a profit.

The rate of profit will therefore be much higher if one buys, not only the right stock; but also takes care to buy it at the right time, and sell out before the trend reverses, or before the stock falls into a coma. The knack of recognizing *when* to buy is quite as important as the knowledge of *what* to buy.

#### Buying on Reactions

It is an excellent plan for the spec-investor to have always at hand a list of previously investigated stocks which he knows to be undervalued, and then watch this



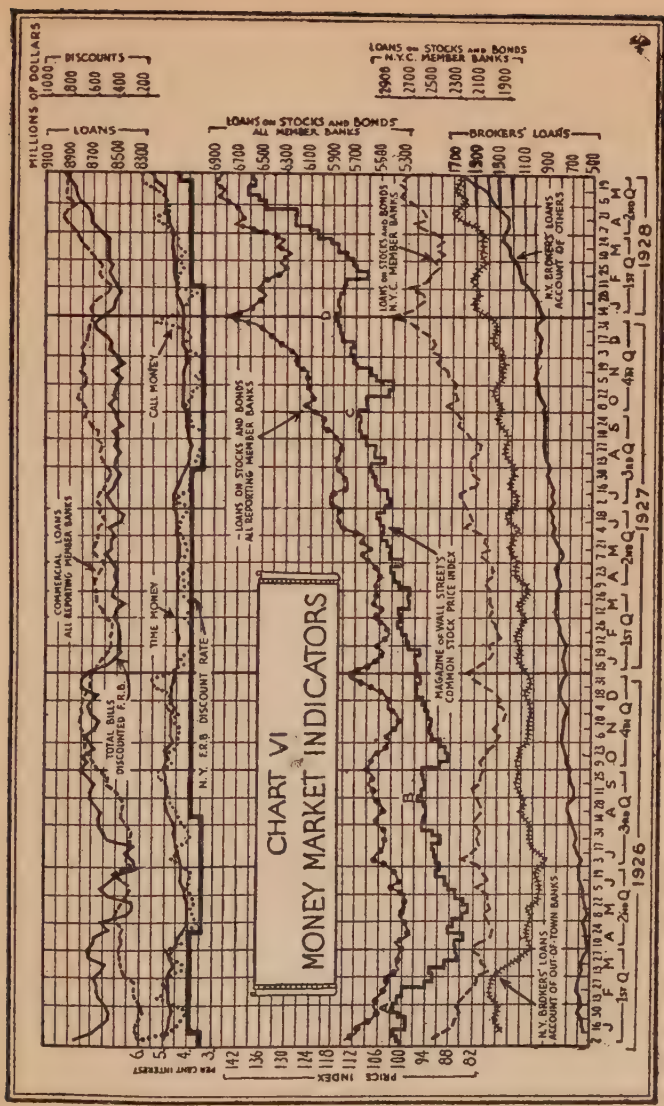
## New Technique of Uncovering Security Bargains

list for a favorable opportunity to buy and a good time to close out. If a stock on this list is already active and moving upward, the most desirable time to buy is after a reaction when indications point to a resumption of the upward movement. Then, when conditions point to another substantial reaction, or to a cessation of the rise, take profits.

The size of the reaction after which one buys is of no great importance, so long as there is a reasonable likelihood that the reaction is over; but it is poor policy to sell out in anticipation of a minor reaction. Minor reactions may not depress the price of a good stock enough to make it worth while to get out, and the price quickly snaps back and rises to new highs. For this reason it is especially important not to become panic-stricken by raids upon the market that come from time to time out of a clear sky for no apparent reason. These usually arise from misinterpretation of some news item, or are engineered for the purpose of uncovering stop orders. To close out long stock in such semi-panicky markets simply leads to unnecessary losses.

### Money Market Indicators

The only reactions in the general market which pay the spec-investor to anticipate are of a magnitude comparable to those beginning at A, B, C, and D (Chart VI): because nearly all stocks, good and bad, usually suffer good sized sympathetic reactions at such times. We shall refer to these as major reactions, although some critics hold that the one starting from "A" was the only major reaction in the general market that has occurred since the end of 1925. One should never sell in anticipation of such minor reactions as those at a, b, c, and d, however; though these frequently afford opportunities to pick up bargains.



## New Technique of Uncovering Security Bargains

As a rule, major reactions can be distinguished from minor drives, because they are nearly always the outcome of strained conditions in the money market. The spec-investor who does his own forecasting will find it helpful to keep a graphic record of money market data somewhat along the lines depicted in Chart VI. We know of no set of general market indicators that will offer so great practical rewards as from a long, close study of the influence of money market conditions upon security prices. The data here presented have been chosen from a great volume of banking statistics, after considerable experimenting; but conclusions as to their forecasting value are necessarily subject to the limitation that experience in their use dates back only to the beginning of 1926. The true market student will understand that all forecasting methods have to be modified from time to time to meet new conditions as they arise. With this proviso, it will be observed that:

1. Conditions in the money market show marked seasonal variations. Commercial loans tend to rise from February to May, fall off from May to July, advance again from July to November, and then decline from November to February—thus completing the cycle. Bills discounted, which reflect stock market as well as commercial demands for credit, follow a less regular cycle. Usually, however, they reach a maximum toward the end of December, and decline rapidly during January. They frequently make another low point in June or July. Rates for call money parallel the changes in bills discounted quite closely. Rates for time money, on the other hand, seem to anticipate changes in bills discounted by about three months.

2. As a consequence of seasonal variations in the money market, major reactions in the stock market show a tendency to appear during the first and fourth

## The Value of the Technical Position

quarters of the calendar year. The fall reaction permits contraction in security loans, or at least offers some check upon their rate of expansion, to make way for the large holiday increase in commercial loans. The February reaction is precipitated by year-end tension in the money market; and perhaps accelerated by publication of annual reports which, in many instances, fall short of glowing expectations.

3. Since the beginning of 1926, a major reaction in the stock market has always followed within one to seven weeks after an increase in the New York Federal Reserve Bank's discount rate, or after a rise of  $\frac{3}{8}$  of one per cent. in time money. In fact all four major reactions during this period have been preceded by such increases in interest rates. While the acute stage of the stock market decline is usually delayed for weeks after the rise in interest rates, it will be noted that such increases have thus far had the immediate effect of checking the rise in prices. The interval between the halt in the market and its headlong decline, is availed of by large market operators to distribute some of their holdings. Stock distributed by large operators, and to some extent by semi-investors who carry their stock through direct bank loans, is purchased by smaller margin traders. This creates a more unstable condition of the floating supply, which partly explains the severity of the subsequent decline in prices.

4. It is important to note that a rise in call money never immediately precipitates a severe decline in the stock market, seldom even a week's reaction; though it usually does precipitate a sharp drop in prices which may last for a few hours, or a day or two. A rise in call rates indicates a shortage in the supply of call money, and constitutes an S. O. S. call upon banks or "Others", who may have available spare funds, to rush aid to the call loan market. Usually the more inviting

## New Technique of Uncovering Security Bargains

rate does bring in an additional supply of call money, which bolsters up prices for a time despite the depressing influence of high interest rates. But this influx of fresh call money may soon cause rates to soften, which leads to withdrawal of the emergency funds. It is the calling of loans consequent upon a relaxation of call money rates that usually precipitates the immediate decline in common stock prices. A rise in money rates is a warning which stocks in weak technical position may promptly heed; but stronger stocks may continue to advance for several weeks. The combined average will advance, or at least hold fairly steady, so long as interest rates continue to advance. A decline in the combined average usually follows very closely upon the heels of relaxing strain in the money market. This explains the otherwise puzzling fact that the stock market has experienced an almost immediate minor reaction on both occasions, since 1925, when the New York discount rate was reduced.

5. A new high record of at least 250 millions above the former peak in loans on stocks and bonds by all reporting member banks has, since 1925, pointed to at least an early halt in the then current wave of rising prices. On the other hand, a reduction of several hundred millions in loans on stocks and bonds serves as a fairly reliable indication that the stock market decline is about over.

6. If, during a week when the combined average declines, call money declines to a point that is at least half of one per cent. below a recent peak, or to a point at least half of one per cent. below time money, it is quite a reliable indication that the market reaction is about over—for the time being, at least. In using Chart. VI, it should be observed that interest rates are those for Fridays, while all loan data are for the preceding Wednesday.



# The Value of the Technical Position

## Individual Stocks

Although turning points in individual stocks conform more or less with turning points in the combined average, there are many instances in which the spec-investment trend changes independently. For this reason turning points in individual stocks are not so easy to forecast as turning points in the general market. Special factors may overshadow money market influences. In order to allow for these one has to consider two general classes of independent influences—news, and the so-called “Technical position”. The latter depends upon the balance between supply and demand for the stock in question. Heavy volume, on rising prices, usually indicates heavy selling. Unless the volume of purchases can be sustained to absorb this selling there will soon be a decline in market price. Light volume on declining prices, on the contrary, shows that very little stock is for sale, so that even a moderate increase in buying power will bring a sharp rise in market price.

## News

Many important moves in a stock are started by rumor or news items. Publication of price increases, or released statistics showing a decline in stocks of copper metal, for example, may turn public attention to the copper stocks. Merger rumors frequently cause violent upward movements in the stocks of companies that are concerned. Rumors of stock dividends, split-ups, or rights also act as stimulants. So with rumored buying or selling by prominent market operators. Official denials of favorable rumors frequently cause a decline in market price, or at least halt the advance. Passing of a dividend frequently causes a precipitate drop in price; unless such action has been long ex-

## New Technique of Uncovering Security Bargains

pected, when the opposite effect may result. Favorable developments in some special location may start upward movements in the stocks of companies located in that part of the country. A profitable cotton crop, for example, will start people buying the stocks of industries located in the South. Then again it may be the Morgan stocks, or the Baker stocks, etc. that are in popular favor. Some Congressional investigation may put a damper on motion picture, or radio, or public utility stocks. A Lindbergh may awaken enthusiasm for the aeroplane stocks, etc., *ad infinitum*.

Comparative analyses of annual reports are of great value in acquainting one with the location, management, physical property, nature of product, past earnings, and present financial condition and capital structure of a company; and one should be familiar with the terms upon which various classes of stocks and bonds are issued, together with the maturities of indebtedness. But this is not enough. It is even more important to keep posted on new developments that might have direct or indirect bearing upon a company's prospects. To this end, one should read the trade journals, the daily financial columns, and every word in such leading investment publications as THE MAGAZINE OF WALL STREET. Some spec-investors read only about stocks in which they happen to be interested at the time. This is a great mistake. It is even more important to read and try to understand articles on subjects with which one is not familiar, and in which one is perhaps not even interested. A large fund of well-digested information is essential to consistent success in spec-investing. Frequently the biggest profits are to be made in stocks about which the public knows the least. Widely advertised stocks usually keep their prices of discounting possibilities pretty well up to date, and sometimes even overdiscount the future.

## **PART II**

### **Basic Principles for Determining Individual Profit Possibilities in Twelve Leading Groups**



## CHAPTER VI

### The Steel Group

**T**HE late Elbert H. Gary remarked shortly before his death that the steel industry was more a thermometer than a barometer of general business conditions. This is one of those obvious facts that are frequently overlooked by spec-investors and students of business conditions. A business thermometer helps to indicate the degree of current business activity; but possesses no forecasting power. It is of no value for the spec-investor in steel stocks to know whether the steel industry is operating at 90% or at 30% of capacity. Money can be made in steel stocks, on the other hand, by observing the varying rates at which activities in steel and related industries are increasing or decreasing. Thermometric data are static and profitless: barometric changes are kinetic, and hence—due to the laws of momentum—prophetic.

#### Steel a Dependent Industry

Products of the Iron and Steel industry—whether in the raw, semi-finished, or finished state—are used by other industries as raw material for further manufacture. There is no direct consumer demand for steel: it must be sold to other industries. Hence the outlook for Steel, so far as volume of output is concerned, is



## New Technique of Uncovering Security Bargains

always nothing more nor less than the composite outlook of its industrial customers. The relative importance of this demand from the steel industry's chief customers—for 1926, a typical year—is presented in Table I.

TABLE I

*The 1926 Market for Finished Steel*

<i>Consuming Group</i>	<i>Per cent. of Year's Purchases</i>
Railroads .....	16.0
Motor vehicles .....	14.7
Construction industry .....	13.2
Jobbers and warehouses .....	10.5
Railroad cars and locomotives .....	7.4
Oil, gas and water industries .....	6.6
Metal containers .....	5.3
Exports .....	5.3
Mining and lumbering .....	3.7
Agricultural implements .....	2.7
Machinery and hand tools .....	2.6
Shipbuilding .....	0.7
All other .....	11.3
Total .....	100.0

Further insight into the character of the demand for steel products may be gleaned from Table II; which will also be helpful to spec-investors in analysing the outlook for steel stocks, if studied in connection with the special lines of product in which individual companies are known to specialize. Otis Steel Co., for example, concentrates upon sheets and plates purchased by Detroit automobile manufacturers.

Of course the proportions and actual tonnages given in Tables I and II will vary more or less with the relative growth in different consuming industries. Only so far back as 1924, for instance, railroad car and locomotive builders took 12.5% of the year's steel output. Before the War, a properly weighted index of railroad orders for rails, cars and locomotives served as the best possible barometer of coming changes in activity at the steel mills. Of recent years, however, railroad con-

## The Steel Group

sumption of steel has become both relatively and quantitatively less significant.

TABLE II

*1926 Production of Rolled and Miscellaneous Steel Products*

Item	Thousands of Long Tons
<b>ROLLED PRODUCTS</b> .....	35,496
Rails .....	3,218
Black sheets and plates .....	10,529
Wire rods .....	2,722
Structural shapes .....	3,912
Merchant bars .....	5,474
Concrete bars .....	816
Skelp (strips) .....	3,765
Hoops .....	190
Bands and cotton ties .....	356
Splice and tie-plate bars .....	954
Rolled forging blooms, billets, etc. ....	363
All other .....	3,197
<b>MISCELLANEOUS PRODUCTS</b> .....	10,708
Tin andterne plates .....	1,782
Galvanized sheets .....	1,244
Galvanized formed products .....	155
Rail joints and fastenings .....	867
Wire nails .....	663
Cut nails .....	30
Wrought pipe (including boiler tubes) ..	3,403
Seamless steel tubes .....	775
Cast-iron pipe .....	1,789
<b>Total</b> .....	<b>46,204</b>

### Competition

Industries which sell direct to individual consumers give a great deal of attention to expanding the market for their products. But the steel industry, taken as a whole can exert no permanent influence upon the demand, except through development of new alloys. Sales may be stimulated for a brief period, but only at the expense of sales for the ensuing period.

Through circumstances quite beyond control of the industry itself, about so much steel is required during a given year—no more, and no less—so that there is an unfortunate tendency for sales efforts on the part of individual producers to degenerate into price cutting competition. Owing to the highly seasonal charac-

## New Technique of Uncovering Security Bargains

ter of the demand for steel it has always been necessary for the industry to maintain a productive capacity much in excess of normal requirements, in order to make prompt deliveries at the peak. Since pre-War days, however, productive capacity in most lines of steel products has increased even more rapidly than the yearly demand; so that mills now seldom operate at 100% of capacity, even at the peak. During 1926, which was regarded as a highly satisfactory year, average operating activity of the country's steel mills reached nearly 94% of practical capacity, and rose to nearly 96% of theoretical capacity in March.

Owing to the rapid growth in automobile production during the past decade, sheet mills have in recent years staged a gratifying improvement in operating conditions. Between 1920 and 1925, which may be regarded as comparable years, the productive capacity of sheet mills increased only 32%, whereas output expanded 68%. Post-War productive activity of sheet mills attained a maximum of only 87% of rated capacity during March of 1920. During the last three months of 1925 and the first two months of 1926, however, sheet mills were operating at over 100%. This goes far toward explaining the recent rapid advance in Otis Steel, from below 8 last year to above 25 this year to date.

Under spur of constant necessity of meeting price concessions, the steel industry has been forced to expend huge sums out of earnings each year to cheapen its costs of production. Such heavy appropriations, in conjunction with violent fluctuations in earnings from year to year, have made it impossible for any but the strongest companies to maintain anything approaching regular dividend disbursements. Steel common stocks are all therefore highly speculative, in the sense that

## The Steel Group

their market movements cover a very broad range, both upward and downward. Andrew Carnegie's saying that "The steel industry is either prince or pauper" has lost some of its force under modern conditions of wider diversification of output; but the industry is still subject to violent seasonal, annual, and secular ups and downs.

### Secular Progress

Traders and spec-investors sometimes fail to appreciate the value of knowing something about longer range developments in an industry. It is a mistake to suppose that secular progress concerns only the long pull investor; for even the trader will find it easier to see the significance of current happenings in their true perspective if he will now and then shift his gaze from the microscope to the telescope.

Stocks of companies which are growing from year to year will advance more rapidly than the general market during upward swings in the speculative cycle, and will decline less during downward swings. But the stocks of companies which are losing ground, year by year, will decline more rapidly than the combined average during the downward stage of a speculative cycle, and recover less during the upward swing. Table III is therefore submitted to convey a bird's-eye view of changes wrought in the steel industry by the War, post-War developments, and the panic of 1921. It will pay the spec-investor to give this table a little study.

When interpreting Table III, it should be observed that 1913, 1920 and 1926 were peak years in the steel industry, and thus serve as fair bases for comparison. 1914 and 1921 were years of depression. 1919 and 1925 were also years of comparable activity.

TABLE III  
*Secular Progress of the Steel Industry*

	1913	1914	1919	1920	1921	1925	1926
Iron ore consumption (Million long tons).....	51.7			55.6	24.7		60.9
Pig iron production (Million long tons).....	30.7			36.4	16.7		39.4
Steel ingot production (Million long tons)....	30.3	22.8	33.7	40.9	19.2	44.1	48.3
Composite pig iron prices (\$ per long ton)...	15.4			43.8	24.1		21.1
Composite steel prices (\$ per long ton).....	38.5			81.3	60.3		59.2
STEEL WORKS AND ROLLING MILLS (per ton of ingot production)							
Number of wage earners.....	0.0107		0.0111		0.0123	0.0084	
Wages .....	8.25		18.90		16.90	13.94	
(Average annual wage per wage earner)...	770		1704		1375	1660	
Primary horsepower .....	0.119		0.113		...	0.108	
Value of product .....	40.3		84.0		77.1	66.7	
Value added, less wages.....	6.15		15.20		7.90	11.76	
Per cent ratio of latter to value of product	15.3		18.1		10.2	13.6	



## The Steel Group

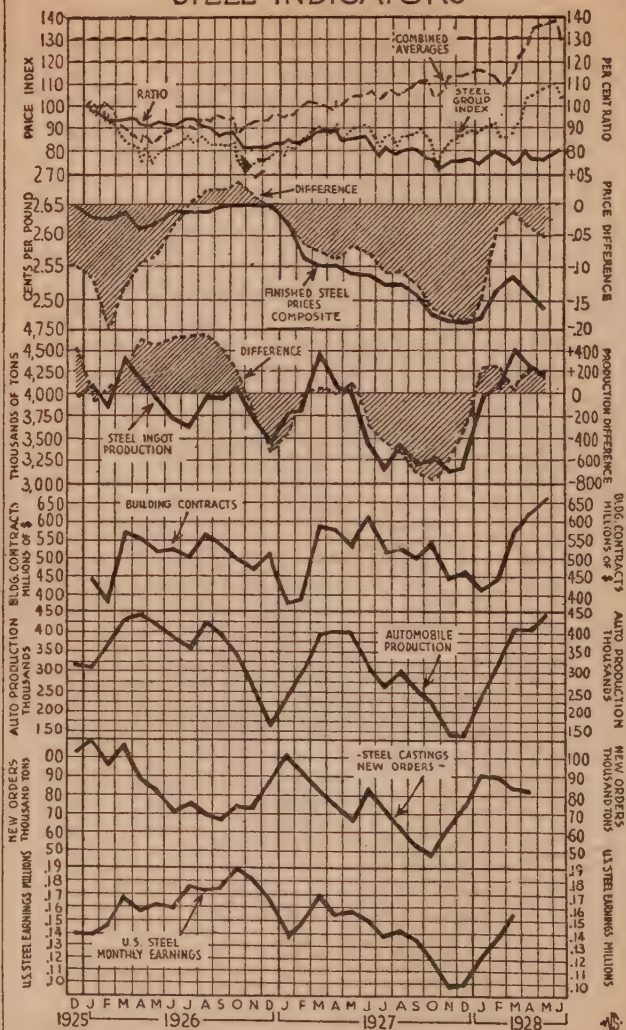
### Market Indicators

In Chart VII are assembled some of the basic data which are of assistance to the spec-investor in forecasting the nearby trend of Steel common stock prices. At the top of the Chart are three common stock price index graphs—THE MAGAZINE OF WALL STREET'S Combined Average of all active common stocks, its Steel group index, and the ratio of the group index to the Combined Average. This Ratio graph frequently affords a valuable clue to a group's technical position. Where the issues of which a group is composed are of a speculative type, such as steel common stocks, the Ratio will usually rise in an advancing market and decline in a falling market; because issues in a speculative group move more rapidly than the general averages. For this reason it is usually to be regarded as an unfavorable indication when the Ratio falls in an advancing or stationary market, or fails to rise in a rising market. This Ratio graph will be shown for other groups, in subsequent Chapters; so that the reader may find it helpful to refresh his memory on its use by referring to Chapter XIV of *The Business of Trading in Stocks*.

Of recent years, as will be noted from the Chart, steel ingot and automobile production have been closely parallel. The peak in steel activity, however, is naturally reached a month or two in advance of automobile output; so that steel production statistics are a barometer of automobile output—not *vice versa*. As shown on the Chart, new orders for steel castings are about two months in advance of the steel ingot production graph. As the figures are released by the Bureau of Commerce before the end of the following month, they serve as a good barometer of steel activity.

About the most serviceable barometer for steel com-

# CHART VII STEEL INDICATORS



## The Steel Group

mon stock forecasting purposes, however, is a monthly graph of steel ingot production compared with production of the corresponding month the year before. On the Chart this is indicated by the word; "difference." Shaded area above the zero line shows the number of tons by which production exceeds that of the previous year: shaded area below the line indicates a decrease. It will be observed that this difference graph parallels the Ratio graph quite closely.

Finished steel prices are those compiled by the *American Metal Market*. U. S. Steel monthly earnings are after taxes and fixed charges of subsidiaries; but before depreciation and charges on the company's sinking fund bonds. It will be observed that these earnings conform, in general direction, with the price difference graph. It will help to understand the course of U. S. Steel's earnings if the reader will recall that the company's management has traditionally followed the tactics of letting the other fellow load up with orders at low prices. Since cost of production is now probably running about 2.05 cents a pound—with selling prices at the average level of 2.50—every increase of even 0.05 cents in selling price means over 10% gain in profits, provided the output remains unchanged.

Unfilled orders have lost all barometric significance under the hand-to-mouth buying policies of recent years, as may be observed from the Chart.

### U. S. Steel

Since U. S. Steel has, since organization in 1901, held the leading place among steel producers; its principal economic and financial ups and downs, as condensed in Table IV, present a fair cross section of the industry's intermittent growth during the past quarter century.

TABLE IV  
*Secular Progress of the U. S. Steel Corporation Since Organization*

	1902	1904	1906	1908	1912	1914	1916	1919	1920	1921	1923	1924	1926
<b>Steel ingot production</b> (million tons).....	9.7	8.4	13.5	7.8	16.9	11.8	20.9	17.2	19.3	11.0	20.3	16.5	20.3
Do.—% of country's total .....	65.2	60.7	57.8	55.9	54.1	50.3	48.9	49.6	45.8	55.4	45.2	45.0	45.2
<b>Finished steel production</b> for sale (million tons)	8.2	6.8	10.6	6.2	12.5	9.0	15.5	12.0	14.2	7.9	14.7	11.7	14.3
Do.—% of capacity..	N.F.	N.F.	N.F.	N.F.	N.F.	N.F.	96.2	74.1	86.2	47.6	88.1	69.4	86.9
<b>Cement Production (mil-</b> <b>lion barrels) .....</b>	0.5	0.5	2.1	4.5	10.1	9.1	10.4	9.1	12.0	12.5	14.4	15.2	14.5
Do.—% of capacity..	N.F.	N.F.	N.F.	N.F.	N.F.	N.F.	77.2	67.5	88.6	92.6	99.6	101.0	88.0
<b>Tons steel produced per</b> <b>man .....</b>	65	61	72	52	75	68	83	64	71	59	82	66	78
<b>Average annual wage and</b> <b>salary per man ....</b>	717	677	730	729	857	905	1042	1905	2173	1739	1800	1793	1846
<b>Fixed charges &amp; Pfd. Div.</b> <b>—per Sh. Present</b>	8.54	8.35	8.36	8.56	9.02	9.09	9.00	8.90	8.86	8.80	8.86	8.82	8.72
<b>Earnings—on present Com.</b> <b>Stk. (\$ per Sh.)..</b>	9.0	0.7	10.1	2.9	4.1	40.2	34.6	7.2	11.9	1.6	11.7	8.4	12.85
<b>Cash Divs.—(equivalent on</b> <b>present Com. Stk.)..</b>	2.86	0	1.43	1.43	3.57	2.14	6.25	3.57	3.57	3.57	4.10	5.00	5.00
<b>*Book value Com.—(basis</b> <b>present capitalization)</b>	82	79	83	86	91	90	125	141	145	143	143	144	149
<b>Common stock price range</b> <b>—High .....</b>	33	24	86	42	58	48	93	82	78	62	78	86	115
<b>Low .....</b>	21	6	23	18	42	24	57	63	54	50	61	67	84
<b>(Basis of present capital-</b> <b>ization)</b>													

N.F., Not available.  
\* Par value of old Com. Stk. + unappropriated surplus, per Sh. present Com.

## The Steel Group

Examination of Table IV can not but impress an impartial observer with the difficulties which the company has encountered. The War brought to the company a considerable increase in surplus, as reflected in the common stock's sudden jump in book value; and facilitated an expansion in productive capacity beyond subsequent peace time requirements. Since the War, the company has gained little either in steel output, labor efficiency, or earning power; though cement output has risen quite rapidly. The rise in U. S. Steel Common stock, from a low of 63 in 1919 to a high of 160 in 1926, must therefore be attributed largely to seasoning influences and the upward pull of the bull market in other stocks, together with an increase of approximately 100% in cash dividend disbursements per share that took place during the eight year period.

### The Out-of-Line Method

A study of Table V. will enable one to formulate certain essential precautions in applying the "Out-of-line" method of detecting when stocks are too low or too high:

1. The "Times-earnings" ratio almost invariably moves in the same direction as, though not proportionate to, the Combined Average. On an average, the Times-earnings ratio moves farther in either direction than the Combined Average; because stocks of a speculative character usually over-discount the future.

2. A stock whose Times-earnings ratio is conspicuously lower than the average for its group, will be much more responsive to an upward movement in the Combined Average than to a downward movement; and a stock whose Times-earnings ratio is conspicuously higher than the average for its group, will be much more responsive to a downward movement in the



# New Technique of Uncovering Security Bargains

TABLE V  
Out-of-Line Data

Stock	1925			1926			1927		
	Earned per Share	Year's Closing Price	Do., Times Earnings	Earned per Share	Year's Closing Price	Do., Times Earnings	Earned per Share	Year's Closing Price	Do., Times Earnings
Beth. Steel .....	5.30	48	9.08	7.48	47	6.27	5.02	58	11.65
Colo. Fuel .....	4.15	36	8.80	7.60	43	5.69	7.10	78	10.05
Crucible .....	7.19	80	11.06	8.72	81	9.28	7.03	90	12.80
Gulf States .....	7.17	92	12.90	5.28	54	10.23	4.93	53	10.70
Ludlum .....	2.97	53	17.93	2.12	27	12.85	1.67	27	16.03
Otis .....	1.06	12	11.20	2.03	8	3.94	0.76	11	14.47
Republic (Old) .....	6.88	59	8.59	11.05	58	5.20	4.23	60	14.30
U. S. Std. (New) .....	9.20	97	10.55	12.85	112	8.74	8.81	152	17.24
Youngstown .....	12.38	86	6.99	14.32	88	6.15	6.10	97	15.85
Average .....	.....	.....	10.79	.....	.....	7.60	.....	.....	13.68
M. of W. St.—Combined Average.....	.....	.....	100.0	.....	.....	95.7	.....	.....	116.3

## The Steel Group

Combined Average than to an upward movement.

3. A high Times-earnings ratio may not only indicate that the stock's market price is too high in relation to recently reported earnings, but it may also point to the possibility of larger earnings in the future; while a low Times-earnings ratio may point to a coming decrease in earnings per share. For this reason, before basing market commitments upon the relative magnitude of the Times-earnings ratio, one should consider not only recently reported earnings, but also the probable trend of earnings in the not too distant future.

4. The most profitable stock of a given group to buy is usually that one which shows the lowest Times-earnings ratio at a time when prospects point to rising earnings for the Company, improved outlook for the industry, and a probable advance in the Combined Average. Diametrically opposite conditions would point to the most dangerous stocks to buy. Table V shows, on this basis, that Gulf State and Ludlum Steel were most over-valued at the close of 1925. There were no very attractive bargains among steel stocks at the beginning of 1926 and 1927; because both, as shown in the Table, were years either of declining earnings or a declining Combined Average. The only exception was perhaps U. S. Steel; which enjoyed a considerable advance for a portion of both years, during intervals when the Combined Average was rising. But, as readers will recall, this was in response to unusual dividend developments. On the other hand,—Gulf, Ludlum, and Otis Steel were bargains at the beginning of 1928; because their per-share earnings increased respectively 50%, 150%, and 15% during the first quarter, while the Combined Average was advancing furiously. The earnings of all other steel companies listed in Table V fell off during the first quarter of 1928, and hence were poor purchases.



## CHAPTER VII

### The Petroleum Group

THE Petroleum industry is even more speculative than Steel; but for quite opposite reasons. With Petroleum it is the supply, not the demand, which is beyond control and uncertain. No one knows from one quarter to the next what new oil pool may be brought in to swamp prices and wash away profits. Prosperity in this industry indeed breeds depression; for rising prices inevitably stimulate production. A little headway was made in the past year toward co-operation among producers to curtail the unwelcome flood of oil; but it seems likely that Price will still remain the chief regulator of supply for many years to come, as it has always in the past.

There is no more beautiful example of the cycle theory of prosperity than that afforded by the Petroleum industry. As prices rise, new wells are drilled and existing shut-in wells are opened, production rises, stocks grow to unwieldy proportions, prices fall, many operators finally find it unprofitable to sell at current prices, production decreases, stored oil is drawn upon and stocks recede; finally prices begin to advance again, thus completing the old cycle and beginning the new. Difficulties that must be surmounted in order to attain satisfactory regulation of production seem all but unsurmountable. The consent of Federal and State authorities to recent agreements among leading operators to shut in production from important oil pools goes far

## New Technique of Uncovering Security Bargains

toward overcoming the handicap of our anti-trust laws ; but this still leaves for solution the problems of international competition, the self interest of non-assenting independent producers, and prospecting activities of the wildcatter. So long as these outstanding problems remain unsolved, the spec-investor in oil stocks will find it profitable to accept the cycle theory as a basis for his forecasts ; but always with a weather eye open for any one of a thousand possible developments that may alter the outlook for the industry as a whole, or any of its many subdivisions—including every item of information that may affect the price of individual oil stocks.

### Industries Within an Industry

The spec-investor who undertakes to analyse the oil industry will find there almost as many widely divergent lines of activity as there are industries in the business world. He will find companies engaged in land speculation ; prospecting ; drilling ; oil well supplies ; reclamation of dry wells ; crude production ; storage ; financing ; transportation by trucks, pipelines, tankcars, barges and tankers ; all degrees of refining, from skimming or topping to cracking ; natural gas production, piping and marketing ; asphalt, wax, coke, coal tar and innumerable by-products—even helium ; exporting and importing ; jobbing, wholesale marketing and retailing, etc. Most of the larger companies are well integrated or complete units, which engage in the great majority of the foregoing activities—from prospecting, or “Wildcatting”, as it is called, to retail distributing. The stocks of such well integrated companies are less speculative, and approach closer to the investment classification ; because the hazards attendant upon specialized activities tend to offset one another when brought into the fold of one large corporation. It is the old principle of distribution of risk. There are periods of rapid change



## The Petroleum Group

in industrial outlook, however, when the stocks of even the larger companies of widely diversified activities offer short term spec-investment opportunities.

Owing to the widely divergent character of activities among individual companies in the oil industry, it frequently happens that conditions which affect some sub-groups adversely will bring prosperity to others. Excessive production, which is bad for refiners and the producers of high cost crude, may benefit companies engaged in transportation of oil products by tank car or pipelines, the dealers in oil well supplies, and companies which bring in the gushers. A drop in crude prices would be bad for producers, though welcomed by companies which purchase crude for refining. The earnings of companies which carry large quantities of crude and refined products in storage fluctuate more severely with changes in the price level than companies with low inventories. The character of oil produced, and its access to markets, are also of great importance when estimating a company's spec-investment possibilities.

Natural gas companies fall more under the class of public utilities and are but little affected by the petroleum industrial cycle. The discovery of new sources of natural gas and the opening up of new markets, however, frequently create attractive spec-investment opportunities in the stocks of such companies. The earnings of companies which produce advertised branded products—such as vaseline, special lubricants, and medicinal oils—fluctuate inversely with the cost of crude; for the market prices of their finished products are practically as stable as the prices of trademark brands in other industries. Vacuum Oil Co., for example, which deals chiefly in branded lubricating oils, is one of the few refiners to show increasing earnings during the present period of overproduction

## New Technique of Uncovering Security Bargains

of crude. Differentials in transportation rates often exert a marked influence upon the volume of sales, and thus upon the earnings, of individual companies—especially in the instance of pipeline companies. So long, for instance, as the cost of California oil laid down in New York is less than the price of similar Mid-Continent crude plus pipeline rates, the eastern pipelines will not operate at capacity. Competition with imported oils is also a factor to be considered. At the present time Venezuelan heavy crude is depressing the price for bunker fuel oil, and this in turn exerts a restraining influence upon the entire price structure of domestic oil and its refined products.

### Refined Products

The spec-investor in oil stocks will find it to be of unusual advantage to keep posted on all the current news relating to the industry, together with financial reports and recent developments in individual companies. To facilitate interpretation of current happenings we submit in the following pages several reference tables of statistics showing high lights of the industry's progress since pre-War days. The standard 42-gallon barrel is used throughout.

• TABLE I

*Average Yield, 1926, from a Barrel of Crude*

Gas Oil and Fuel Oil.....	19.4 Gals.
Gasoline .....	14.5 Gals.
Kerosene .....	3.3 Gals.
Lubricants .....	1.7 Gals.
Asphalt .....	7.4 Lbs.
Coke .....	2.5 Lbs.
Wax .....	0.8 Lbs.
Other finished products.....	0.4 Gals.
Losses .....	1.4 Gals.

The foregoing presents the average recovery, during 1926, from all crude oil run in the U. S., including a small percentage of foreign crude. The relative propor-

## The Petroleum Group

tions of different finished products varies greatly, however, according to the quality of crude derived from different fields. Heavy oils, such as those from the Lake Maracaibo district, Venezuela, are poor in gasoline content, but rich in fuel oil, lubricants and asphalt. Lighter oils from the Mid-Continent and other fields yield a high percentage of gasoline.

Changes in demand have brought about great changes during the past generation in the relative proportions of the four principal finished products derived from the average barrel of crude, as will appear from inspection of Table II.

TABLE II  
*Changing Yields from an Average Barrel of Crude*

Year	GALLONS			
	Gasoline & Naptha	Kerosene	Gas & Fuel Oil	Lubricants
1880 .....	4.3	31.6	...	0.9
1899 .....	5.4	24.2	5.9	3.8
1909 .....	4.5	13.9	14.1	4.5
1914 .....	7.6	10.1	19.5	2.8
1918 .....	10.6	5.6	22.5	2.6
1923 .....	12.6	4.0	20.4	1.9
1926 .....	14.5	3.3	19.4	1.7

The recovery of lubricants reached a maximum of about five gallons in 1904. Gas and fuel oil reached a maximum of 22.5 gallons in 1918. It will be observed that the great increase in gasoline yield since pre-War days has been largely at the expense of the kerosene component, which is being more and more broken up into the lighter product by modern cracking processes. This, and the growing importance of "Casinghead", or natural gas gasoline, is shown in Table III.

TABLE III  
*Per Cent of Total Gasoline Produced by Three Methods of Manufacture*

Year	Straight Run	Cracked	Casinghead
1918 .....	89	10	1
1926 .....	63	31	6

## New Technique of Uncovering Security Bargains

At the end of 1918 there were 6,147,000 motor vehicles registered in the U. S., and the production of crude amounted to 57.9 barrels per car. By the end of 1926 motor vehicle registration had risen to 22,330,000, with crude production for that year down to 34.3 barrels per car. In the interval, annual consumption of gasoline had risen in almost exact proportion to automobile registrations, averaging the equivalent of about 14 barrels per vehicle registered at the end of a year. Of course petroleum is refined into other products than gasoline, and gasoline is used for purposes other than running motor cars; but the figures suffice to show that the cracking process has been a powerful aid to the economical use of petroleum and the conservation of our unexploited reserves of the raw product. The demand for motor gasoline is now the dominant factor which regulates the consumption of crude. All other refined products may consequently be regarded as by-products, and much business acumen is demanded of leading operators in the industry to develop well balanced markets for these by-products. Should present efforts to stimulate the demand for fuel oil be overdone, for example, it might become necessary to abandon a number of costly cracking plants and revert to old straight run processes in order to avoid flooding the country with an excessive supply of gasoline. It is well for the spec-investor to keep a close watch upon changing consumption, stocks, and prices of the various refined products; for these have an important bearing upon the aggregate profit realized on a barrel of crude.

### Prices

In Table IV are presented data for 1925, the latest year for which information is available, showing itemized values at point of production of the principal petroleum products per barrel of crude.

# The Petroleum Group

TABLE IV

*Average 1925 Values, per Barrel of Crude, of Crude and Refined Products, at Point of Production*

Product	\$	% of Total
Crude petroleum .....	1.68	100.0
Gasoline, Naptha, Benzine and other light products.....	1.682	53.4
Fuel and Gas Oils.....	0.649	20.6
Lubricants .....	0.333	10.6
Kerosene .....	0.215	6.8
Distillates sold for re-running.....	0.086	2.7
Road Oils, Tar and Greases.....	0.042	1.3
Wax .....	0.041	1.3
Asphalt .....	0.041	1.3
Petroleum Coke .....	0.008	0.3
Other Refined Products.....	0.053	1.7
Total Refined Products .....	3.15	100.0

It will be noted that over 90% of refinery gross income from operation in 1925, taking the country as a whole, was derived from sale of the four leading refined products. In pre-War days, as will be observed from Table V, sales of these four products constituted nearly the same percentage of total sales; though gasoline has since gained greatly in relative importance at the expense of kerosene and lubricants. Of course the relative proportions of gross income derived from the various refined products will vary greatly with the character of crude used for refining, for reasons advanced in the discussion of Table I.

TABLE V

*Percentage Value of Four Leading Refined Products, 1925 Compared with 1914*

Product	1914	1925
Gasoline .....	30.7	53.4
Fuel and Gas Oils.....	21.2	20.6
Lubricants .....	14.1	10.6
Kerosene .....	24.4	6.8
Four Leaders .....	90.4	91.4

The whole network of prices is so complicated by considerations of location, competition and grade of product that statistics of price fluctuations have to be



## New Technique of Uncovering Security Bargains

interpreted with a great deal of care. In a general way it may be said that, while prices received by individual companies vary widely, they all rise and fall in approximate proportion. The price paid for crude is governed largely by prices obtainable for its leading refined products. The price of mid-continent crude, for example, is based upon prevailing prices for gasoline, gas and fuels; for these average about 80% of its refined products.

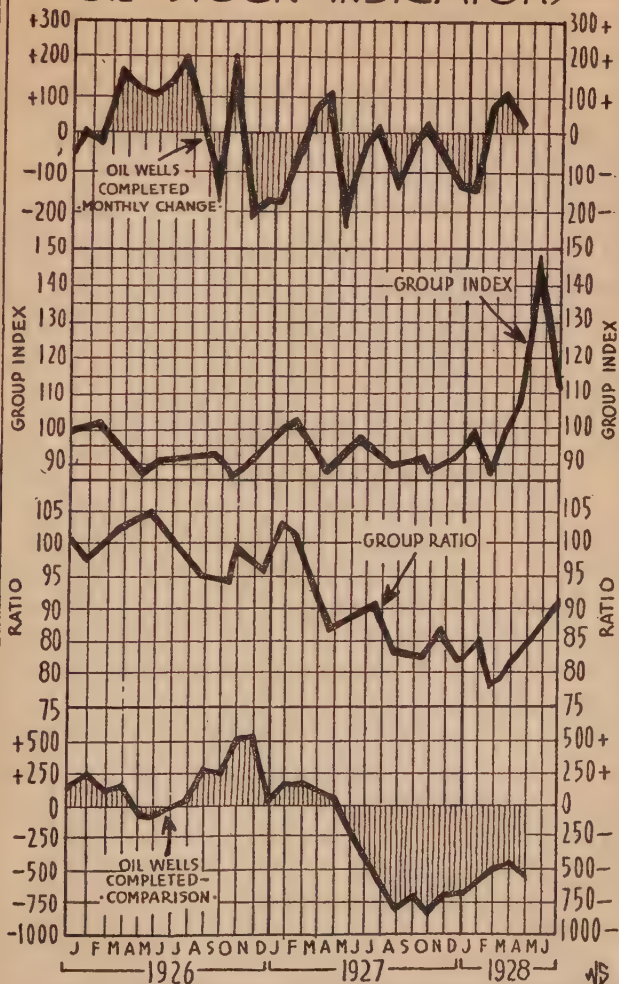
### Market Indicators

In presenting the subject of spec-investment in petroleum stocks, limitations of space compel us to omit from the discussion any specific consideration of pipeline, natural gas, oil well supply, tank car, land companies, etc.; and to confine our attention to integrated units which produce, refine and market petroleum and its refined products. Such companies comprise the great majority of those listed on the New York Stock Exchange, and constitute the chief proportion of issues used in computing THE MAGAZINE OF WALL STREET'S Petroleum group price index.

After considerable experimenting, the writer has found that statistics showing the number of wells completed during the month, as compared with the number completed during the preceding month and during the corresponding month of the year before, serve as the best available barometer of coming spec-investment swings in the Petroleum group as thus constituted. The required data are depicted graphically in the four curves of Chart VIII.

( Curve (2) is THE MAGAZINE OF WALL STREET'S Petroleum group index. Curve (3) is the % ratio of this index to THE MAGAZINE OF WALL STREET'S Combined Average. The theory of this group ratio is that

# CHART VIII OIL STOCK INDICATORS



## New Technique of Uncovering Security Bargains

its movements reflect changes in the outlook for the industry, wholly divorced from conditions in the money market by which movements in the Combined Average are complicated. A rise in the group ratio means that petroleum stocks are rising faster than other stocks, on an average, or else that they are declining less rapidly. Consequently the time to buy oil stocks is when indications point to a rise in both the Combined Average and the Petroleum group ratio.) The group ratio rose from the middle of January, 1926, to the end of May; but this was no time to buy Oil stocks. They were forced down at that time by a severe decline in the general market, despite favorable conditions in the oil industry. In marked contrast, were the conditions obtaining during March and April, 1928, when Petroleum stocks as a group enjoyed the sharpest advance in two years. Here the advance in the group ratio was reinforced by a strong bull movement in the general market.

Curve (4) shows the number of oil wells completed each month compared with the corresponding month of the year before. Curve (1) shows wells brought in each month in comparison with the immediately preceding month. During October, 1926, for example, 1957 wells were brought in, compared with 1420 during October, 1925. The increase of 537 wells is therefore entered on Curve (4) for October, 1926. During September, 1926, 1745 wells were completed. October, 1926, thus ran 212 ahead of September, and this figure is entered on Curve (1), above the zero line. All decreases are entered below the line.

It will be observed that, if Curve (4) were shoved several months toward the right, it would coincide closely with Curve (3). In other words, Curve (4) serves as an excellent barometer for forecasting the speculative swings in Petroleum stocks. Every angle

## The Petroleum Group

made in Curve (4) is followed within a few months by a change in the direction of Curve (3). Curve (1) merely serves to bring out more sharply these angles in Curve (4). From Curve (1) we have derived the following forecasting rules, which have worked well, with few exceptions, during the period covered by Chart VIII. Like all forecasting "rules", however, one can never be certain that new conditions may not upset the whole method.

*Forecasting Rule for Common Stocks of integrated companies engaged in the production, refining and marketing of petroleum products:* Oil stocks of this character are a purchase within about a month after the first increase in wells completed during the month, as shown on curve (1); provided conditions in the money market point to a rise in the Combined Average. Oil stocks of this class are usually a sale within about six weeks after Curve (1) has made a peak; provided conditions in the money market point to a decline in the Combined Average.

At first thought it seems anomalous that oil stocks should be bought when more wells are being brought in and sold when there is a falling off in new sources of crude supply. This might be explained under the old rule of buying on bad news and selling on good news, after it is announced. A more logical explanation seems to be that the number of oil wells brought in is a sort of thermometer of price changes within the industry. Rising prices bring in more production, but also cause greater earnings—for the time being, at least. Falling prices impair earnings, and discourage drilling; and so, for the time being at least, are a bear argument on oil stocks. This explains why earnings also parallel Curve (4) very closely: just as steel company earnings paralleled the analogous price difference curve in Chart VII.

## New Technique of Uncovering Security Bargains

### Individual Stocks

Having determined when oils stocks as a group should be purchased, the final question to be settled is which oil stock is the best to buy. Lacking space to go into details here, we can merely point out that the best stock to buy is the one which is showing the most rapid increase in earnings, is at the time most under-priced on the "times-earnings" basis, is in strongest technical position, and regarding which current news and rumors are most favorable. Ordinarily the higher priced stocks are a better buy at a time when the market is largely dominated by professional traders, and the lower priced stocks when the "public" has taken the bit in its teeth.



## CHAPTER VIII

### Non-Ferrous Metals

#### Prices

THE non-ferrous metal industries are subject to almost as violent ups and downs as the steel industry, as will be seen from their principal price movements during the past quarter century, presented in Table I.

TABLE I

*Principal Price Movements of Non-Ferrous Metals*

Yearly Average Price, Cents per Lb.  
(Silver, Cents per Oz.)

Year	Copper	Lead	Zinc	Tin	Silver
1901 .....	16.11	4.33	3.90	26.74	59.7
1902 .....	11.63	4.07	....	....	52.8
1903 .....	13.24	...	....	....	...
1904 .....	12.82	...	....	....	...
1906 .....	....	5.66	6.05	39.82	67.4
1907 .....	20.00	...	...	...	...
1908 .....	....	4.20	4.58	29.46	...
1909 .....	....	...	....	....	52.2
1910 .....	....	4.45	....	....	...
1911 .....	12.38	...	...	...	...
1912 .....	16.34	...	6.80	46.10	62.0
1914 .....	13.60	3.86	5.06	34.30	...
1915 .....	....	...	13.05	....	51.1
1916 .....	27.20	...	....	....	...
1917 .....	....	8.79	....	....	...
1919 .....	....	5.76	6.99	63.33	112.1
1920 .....	....	7.96	7.67	....	...
1921 .....	12.50	4.54	4.66	28.58	63.1
1922 .....	....	...	....	....	67.9
1923 .....	14.42	...	....	....	65.2
1925 .....	....	9.02	7.62	....	69.4
1926 .....	....	...	...	63.62	...
1927 .....	12.92	6.76	6.24	62.75	56.7

Comparison of 1927 prices with those obtaining in 1901 points to interesting conclusions regarding the secular progress of the various metals. Copper is sell-

## New Technique of Uncovering Security Bargains

ing materially lower than in 1901; partly due to the post-War slump in European demand, and partly because—as in the coal industry—more mines were opened up during the War than are needed to meet normal peace time requirements. Producers now hesitate to raise prices above the fifteen cent level for fear of bringing more of these higher cost independent mines into production and also attracting to the market a flood of secondary copper. The outlook is further clouded through the recent discovery by such companies as Greene Cananea, Calumet & Arizona, and International Nickel of important deposits of high grade ore. With the metal above fourteen cents, however, most of the leading producers are able to show reasonably satisfactory profits.

Lead also is in a position where any substantial increase in price brings in more production than is needed. The price still holds well above that prevailing in 1901, however, because the bulk of high grade ores in this country has been practically exhausted. While considerable reductions have been effected since the War in the cost of mining copper, lead production costs have been rising, owing to the lower grade of ore now available in our principal deposits. The price of lead during the past few years has been depressed by some falling off in demand, by the discovery of new low grade deposits in Canada, by increasing recovery of scrap, or secondary, lead from storage batteries, and by improvements in the flotation process of recovery from composite low grade ores containing lead, zinc, silver, and sometimes copper.

Zinc prices have also suffered some of late from this flotation process, and also from competition of low grade western zinc with the growing supply of lead-free electrolytic. Demand in 1926 was considerably curtailed by the coal strike in Great Britain, who

## Non-Ferrous Metals

ranks second only to the U. S. as a zinc consuming country.

The secular trend of tin is unmistakably upward, until some satisfactory substitute is found for some of its uses. Ore from the old mines is becoming increasingly more expensive to produce, and there seems to be little prospect of discovering new fields.

Of late years the price of silver has been affected considerably by political considerations connected with the two leading countries, China and India, whose currency is still based upon silver. The Indian Parliament recently voted against England's proposal to demonetize silver, and this has tended to strengthen the price for the time being; but it is probably only a question of time when India will go on a gold basis. The varying vicissitudes of the Chinese revolution now lead to speculative changes in the price of silver which are difficult to forecast.

All such considerations leave their impress upon prices, and should be watched by the spec-investor; for price movements in the common stocks of metal producing companies are largely determined by corresponding changes in metal prices.

### Demand

During 1926 the United States consumed and exported about 3.5 billion lbs. of copper (cf. Table IV). Of this total it is estimated that electrical construction took about 875 million lbs., or 25%; automobile manufacturers used 200 millions, or 6%; the building industry 100 millions, or 3%; while exports of copper, in all stages of refinement and manufacture, reached 966 millions, or 28%. Miscellaneous manufactures, including such alloys as brass and bronze not apportioned among the foregoing, accounted for the remaining 38%.

## New Technique of Uncovering Security Bargains

The U. S. supply of lead in 1926, exclusive of domestic scrap, amounted to 1361 million lbs. from domestic ores and 302 millions from foreign sources. Of the total 1663 million lbs., it is estimated that automobiles (exclusive of storage batteries) consumed about 33 millions, or 2%; manufacturers of storage batteries about 380 millions, or 23%; the paint industry about 350 millions, or 21%; while about 312 millions, or 19%, were exported. The remaining 35% was consumed by cable, pipe, and type manufacturers and by other industries. It is estimated that about 55% of storage battery production is taken by the automobile industry; so that the latter industry consumes altogether about 15% of our total lead supply.

The U. S. supply of zinc in 1926, exclusive of domestic scrap, amounted to 1435 million lbs. from domestic ores and only 29 millions from foreign sources. Of the total 1464 million lbs., 311 millions, or 21%, were exported. The major portion of the 1124 lbs. consumed at home was used by the galvanizing industry. The remainder went into primary batteries, into such alloys as brass, and into minor industries. Automobiles took about 43 million lbs.

The U. S. produces practically no primary tin. Of the 173 million lbs. imported in 1926 the automobile industry consumed about 32 million lbs. in the form of tin plate; while tin plate manufactured for other purposes, notably the canning industry, accounted for the major portion of the remainder. The canning industry has of recent years devised a process for tin coating which consumes a much smaller quantity of the high priced metal. As a consequence such tin reclaiming concerns as the Vulcan Detinning Co. have experienced a rather sharp decline in earnings.

Silver is, of course, used largely for coinage, and in the arts; but in what proportions it is practically

## Non-Ferrous Metals

impossible to ascertain, owing to the great amount of duplication which arises from the melting of old coin and silver.

To economize space, the remainder of this Chapter will be devoted largely to copper; but the procedure for analyzing and forecasting other metals is quite similar.

### Production

According to data compiled by the American Bureau of Metal Statistics the United States alone mined 54% of the world's copper, in 1926, and consumed 52%. Domestic corporations control practically all of the copper produced in the Western Hemisphere, which amounted to practically 80% of the world's total. Our best customer is Europe, which produced only 8% of the world's total; yet consumed 31%. Particulars are presented in Tables II to V, which the spec-investor will find useful as references when interpreting current developments.

TABLE II

*1926 World Production and Consumption of Copper (Million Lbs.)*

Country	PRODUCTION			Consumption
	Mine	Smelter	Refinery	
United States .....	1,756	1,968	2,480	1,808
Canada .....	128	67	21	35
Mexico .....	125	85	....	....
Cuba .....	26	....	....	....
Chile .....	446	415	380	....
Peru .....	93	92	....	....
Other South American ....	16	....	....	....
Spain and Portugal.....	128	40	10	31
Other European .....	139	201	307	1,051
Africa .....	216	198	14	21
Japan .....	145	145	145	176
All Other .....	44	52	56	342
Totals .....	3,262	3,263	3,413	3,464

## New Technique of Uncovering Security Bargains

Table II conveys a clear picture of how maladjustments between mine, smelter and refinery output, and between refinery output and consumption, in the various countries generate numerous cross currents of foreign trade in copper ore, blister and refined copper products. As might be expected, the world totals for mine and smelter output are in substantial agreement; but the output of refined will always be larger by the amount of secondary (scrap) copper re-refined. Table II does not seem to make sufficient allowance for this, in the U. S. at least, as will appear from data in Table IV, assembled by our Bureau of Mines. Consumption will exceed or fall short of refined output according to net amounts withdrawn from, or added to, stocks during the year.

Table III shows that 22 prominent corporations mine practically 83% of the world's copper.

TABLE III

*1926 Mine Output of Prominent Companies (Million Lbs.)*

Company	Location of Principal Mines	Copper Output
Anaconda .....	Montana .....	254
Braden .....	Chile .....	160
Calumet and Arizona.....	Arizona .....	47
Calumet and Hecla.....	Michigan .....	104
Cerro de Pasco.....	Peru .....	92
Chile .....	Chile .....	220
Granby .....	British Columbia .....	38
Greene Cananea .....	Mexico .....	31
Howe Sound .....	Mexico and British Columbia.....	33
Inspiration .....	Arizona .....	82
Kennecott .....	Utah, Alaska, Chile.....	455
Magma .....	Arizona .....	29
Miami .....	Arizona .....	55
Mohawk .....	Michigan .....	20
Motherlode Coalition .....	Alaska .....	27
Nevada (including Ray-Chino)....	Nevada, Arizona, New Mexico....	231
New Cornelia .....	Arizona .....	72
Phelps Dodge .....	Arizona, Mexico .....	195
Seneca .....	Michigan .....	5
United Verde .....	Arizona .....	100
Union Miniere du Hout Katange.....	Africa .....	190
Utah Copper .....	Utah .....	234
Total .....		2,674



# Non-Ferrous Metals

TABLE IV

*Estimated Apparent Consumption of Copper in U. S., 1926*  
(Million Lbs.)

Refined from domestic ore .....	1738	
Refined from domestic scrap .....	960	2698
<hr/>		
Refined from foreign ore .....	106	
Refined from foreign blister .....	444	
Refined from foreign matte .....	47	
Refined from foreign scrap .....	11	608
<hr/>		
Imports of refined ingots, bars and rods.....	171	779
<hr/>		
Total supply of refined .....		3477
Less year's increase in domestic stocks.....		6
<hr/>		
Net supply of refined .....		3471
Undefined: ore, blister and matte, exported.....	6	
scrap, exported .....	19	25
<hr/>		
Total domestic supply .....		3496
Exports: ore, blister and matte.....	6	
scrap .....	19	
ingots and bars.....	856	
rods .....	45	
manufactures .....	40	966
<hr/>		
Apparent domestic consumption .....		2530

TABLE V

*Principal U. S. Imports and Exports of Copper, 1926 (Million Lbs.)*

Country	Imports					Exports		
	Ore	Blister	Matte & Scrap	Refined	Total	Ingots & Bars	All Other	Total
Canada ....	48	45	14	..	107	15	21	36
Mexico ....	3	82	20	..	105	1	5	6
Cuba .....	5	..	17	..	22	..	5	5
Chile .....	33	31	2	167	233	..	..	..
Peru .....	1	94	..	..	95	..	..	..
Spain .....	13	25	..	..	38	10	..	10
Other								
European..	..	..	..	..	764	764	46	810
Africa .....	..	84	..	1	85	..	..	..
Japan .....	..	..	..	..	..	37	6	43
All other ..	3	83	5	3	94	29	27	56
Totals .	106	444	58	171	779	856	110	966

Table V is, of course, the logical outcome of facts disclosed in Table II. It will be observed that practically all our imports of refined copper come from Chile; whereas over 85% of our imports of unrefined

## New Technique of Uncovering Security Bargains

copper come from Canada, Mexico, Cuba, Chile, Peru, Spain and Africa. On the other hand, about 80% of our copper exports consist of refined ingots and bars shipped to Europe. Less than 20% of the copper that we exported in 1926 had to be supplied from domestic sources; although a major portion of our imports come, of course, from domestic owned property in foreign countries.

The rapidly growing importance of scrap copper as a source of secondary supply is a matter of much concern to producers, and has undoubtedly been a factor in holding down prices since the War. The amount of copper recovered from scrap has increased from 273 million pounds in 1913, to 672 millions in 1922, and reached the large total of 960 million lbs. in 1926. Domestic production of secondary copper in 1926 indeed amounted to more than half the quantity smelted from domestic ores, and was sufficient to supply our entire export requirements.

### Market Indicators

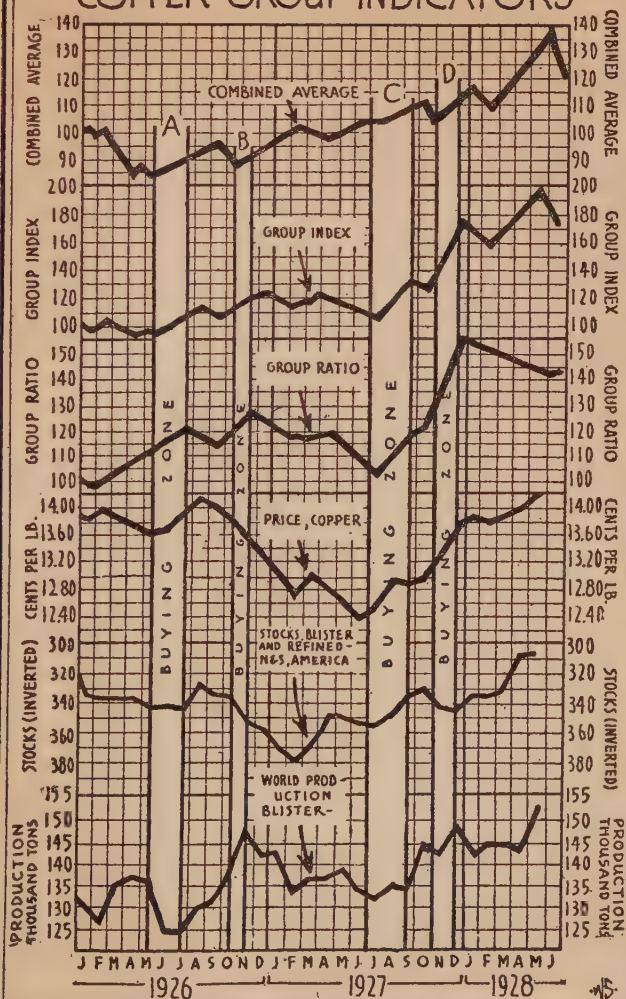
In studying Chart IX the reader will recall that the curve marked, "Group Ratio", shows whether copper common stocks are stronger or weaker than the general market. In order to keep his funds working at high efficiency the spec-investor should:

*First:* Wait for a rise in the general market before buying any stocks.

*Second:* Select issues that rise faster than the general market.

In other words, copper stocks as a group are the best buy when a rise in the Copper Group Ratio is accompanied by an advance in the Combined Average. At such times it remains only to select the most promising individual issues of the group. According to this for-

# CHART IX COPPER GROUP INDICATORS



## New Technique of Uncovering Security Bargains

mula, then, there were only four periods during the two and a half years shown on the Chart when Copper stocks, as a group should have been bought. These four periods—indicated by the shaded zones, A, B, C, and D—were respectively from the middle of May to nearly the end of July, 1926; then again from the middle of October to the middle of November; from the first of July to near the end of September, 1927; and again from the first of November to Christmas.

In earlier Chapters we have shown how to forecast movements in the Combined Average: the Group Ratio may usually be forecasted with the aid of appropriate industrial barometers, used to serve as market indicators. The best market indicator for copper stocks as a group seems to be the wholesale price of the metal. It will be observed that changes in direction of the metal price curve frequently anticipate by several months corresponding reversals in the Group Ratio; but the price curve never lags behind the Group Ratio, otherwise it would be useless as a barometer. The great technical strength of copper stocks as a group around the first of July, 1927, was shown by the fact that, although prices for the metal were considerably lower at that time than around the middle of January, 1926, the Group Ratio failed to reach its old low. In other words, copper stocks had about held their own in the general market despite a considerable drop in the price of copper. The sharp rise in copper stocks from around the first of July, 1927, to the end of the year, accompanied by advancing prices for the metal, was the logical outcome.

It will be noted that the actual price of copper is used here as a barometer. Barometers chosen for the steel and oil industries, on the other hand, were not the actual data, but monthly figures compared with data for the corresponding month of the previous year. The

## Non-Ferrous Metals

general guide for selecting barometric data seems to be that actual figures are to be used for non-seasonal industries, such as copper; but comparative data for highly seasonal industries such as steel and petroleum.

Curves showing world production of blister copper, and North and South American stocks of blister and refined, are an aid to forecasting prices for the metal. The stocks curve is best platted on an inverted scale, so that its turning points may be compared the more readily with corresponding angles in the price curve. Thus inverted, Increases in stock cause a decline in the stocks curve; whereas Decreases produce an advance. As a general rule, decreases in production and stocks favor price advances in the metal, and *vice versa*. The rule for when to buy copper common stocks, as a group, may therefore be simplified to read:

Copper stocks, as a group, are usually a good buy when conditions point to an advance in the general market and in the price for the metal.

The rule worked beautifully in buying zones, A, C and D. On the other hand, it would have led a spec-investor to take on copper stocks from the middle of February to the end of May, 1928; and to overlook the buying zone "B". As a matter of fact, copper stocks *were* generally a good buy during the spring of 1928, but *not* real bargains during zone "B", despite the showing of the Group Ratio Curve. Greene Cananea is largely to blame for both discrepancies. During the interval, "B", it was busy discounting the famous discovery of its new ore body, and so gave to both the Group Index and the Group Ratio an appearance of strength that was only mildly shared by other copper issues within the group. During the spring of 1928, this same Greene Cananea imparted to the Group Ratio a false appearance of softness while its price was receding from an over-inflated summit. Had this issue, along

## New Technique of Uncovering Security Bargains

with Calumet and Arizona—another new ore body discoverer—been eliminated from our Group Index, the Group Ratio curve would have conformed more closely with the metal price curve.

Some of the most valuable lessons in the stock market are to be derived from instances where rules go wrong. The two lessons here are: *First*: you can buy the *listed* stock of a company which has just made an important discovery or invention, regardless of general conditions in the industry. This does not apply to *unlisted* promotion stock, however, which is likely to be a pure gamble. *Second*: it would not have been wise to buy copper stocks, as a group, during zone, "B", when production and stocks were advancing and metal prices were declining.

### Individual Issues

Apart from special circumstances, such as the discovery of new ore bodies, it is a comparatively simple matter to recognize bargains in the metal stocks. Changes in cost of production are usually much less rapid than changes in price of the metal so that, for practical spec-investment purposes, it may be assumed that any increase in metal price is clear gain for a company, and any drop in price is clear loss. If, for example, a company's annual output of copper is equivalent to 100 lbs. per share of common stocks outstanding, then every change of one cent a pound in the price of copper may be assumed to produce a change of one dollar a share in earnings. If copper stocks are selling at an average of, say, twelve times earnings, then every change of a cent a pound in metal price would thus mean a change of \$12.00 a share in the stock's intrinsic value. This at least is how the market price normally responds to price changes in the metal (provided the



## Non-Ferrous Metals

stock has not already discounted the new metal prices) ; although, theoretically, changes in intrinsic value are also dependent upon depletion charges, estimated life of the mines, and book value of the stock. Inspection of Table VI will perhaps illustrate more clearly this process of selecting bargains in the metal stocks.

It will be noted that all metal prices, except lead, advanced during the first five months of 1928. The third column from the right, in Table VI, shows the estimated resulting increases in earnings per share, computed by multiplying the per-share output of each metal by its price change between Jan. 1st and June 1st. The next to the last column expresses these increases in earnings as a percentage of the per-share earnings shown in the first column to the left. Assuming now that a spec-investor believed on Jan. 1st that all metal prices but lead would advance further: what were the best stocks to buy at that time?

Running one's eye down the "Times-earnings" column of Table VI, it is observed that Cerro de Pasco, Granby, Miami, Howe Sound and Park Utah are the lowest—all five selling, in fact, below twelve times earnings. Perusal of the second column from the right, however, would lead one to omit Cerro de Pasco and Howe Sound from this list of attractive purchases; because their earnings promise only moderate percentage gains. Suppose then that a spec-investor bought ten shares each of Granby, Miami and Park Utah, on 50% margin: how would he have fared? Allowing \$1.00 a share for overhead, his maximum profits within five months would have been about \$130 on Granby, \$20 on Miami, and \$30 on Park Utah—a total of \$180 on an investment of \$360. This is at the annual rate of 120% on his capital, without compounding. As a matter of fact, Howe Sound would also have yielded a large percentage profit, merely because it was originally under-

# New Technique of Uncovering Security Bargains

TABLE VI  
1927 Reference Data on Leading Metal Stocks, for the Spec-Investor of 1928.

	Metal prices—Jan. 1, 1928.....	Copper	Lead	Zinc	Silver
	Metal prices—June 1, 1928.....	13.80	6.50	5.70	59.50
		14.23	6.12	6.01	61.80

	Estimated Earnings Per Share At Metal Prices on 1-1-28	1927 Closing Price Times \$ Earnings (Lbs.)	1927 Output per Share Copper Lead Zinc Silver (Lbs.) (Lbs.) (Ozs.)	Estimated Increase in Earnings Per Share At Prices on June 1, 1928 Cents	1928 High Price Of Stk. to 6-1-28 %			
Calumet and Ariz.	6.53	120	77	2	0.38	5.8	120	
Calumet and Hecla	1.72	22	55	..	0.24	14.0	25	
Cerro de Pasco	5.87	69	50	..	0.42	7.2	79	
Chile Copper	2.95	42	50	..	0.22	7.5	45	
Granby	4.36-x	43	130	..	0.56	12.8	57	
Inspiration	1.28	21	75	..	0.32	25.0	26	
Kennecott	7.15	86	104	..	0.44	6.2	95	
Magma	2.79	56	80	2	0.39	14.0	57	
Miami	2.16	19	73	..	0.31	14.4	22	
Nevada	1.57	19	43	..	0.18	11.5	26	
Utah Copper	10.26	148	147	..	0.63	6.1	160	
Alumada	0.13	3.5	13	..	0.05-d	d	3.5	
Howe Sound	4.13	45	75	160	7	0.23	5.6	63
Park Utah	0.88	10	..	33-y	13	0.27	30.7	14
St. Joseph Lead	2.87	42	..	145	..	0.55-d	d	49

—Before depletion. y—Copper paid for as lead and so included as lead. d—Deficit.

x—Before depletion. y—Copper paid for as lead, and so included as lead. d—Deficit.

## Non-Ferrous Metals

priced on a times-earnings basis; but, in the long run, the method here outlined is the safest and most profitable one to follow.

Bargains such as the foregoing are nearly always to be found in the stock market. Why? In the majority of instances it is not that such opportunities have been overlooked; for some of the shrewdest minds in the country operate in Wall Street. The most probable explanation is that the market price of a stock in such instances can not advance fast enough to keep pace with the rapid improvement in outlook. From purely technical reasons, a stock can not rise faster than a certain rate; for its progress is always resisted by waves of profit-taking which cause temporary set-backs—or “technical reactions”—from time to time. Moreover, when the market is full of a great many undervalued stocks, they can not all advance at one time without producing too great a strain upon the money market.



## CHAPTER IX

### Railroads

**M**ORE voluminous and more accurate statistics—physical, economic and financial—are available concerning the railroads than is the case with any other industry; yet individual railroad stocks are the most difficult of all to forecast, so far as their short term trend is concerned. Analyses in this field, if dependable, must be made by special experts. Most large statistical organizations which are properly equipped to offer investment advice to their customers maintain a separate railroad department staffed by specialists in this one field alone. There are many reasons for this difficulty.

### Stale Statistics

To begin with, the major portion of information published regarding the railroads falls under the class of what have been characterized as “stale statistics”. The essential data are released by cumbersome Government processes long after the time when they could be of direct use for stock market purposes. Even stale statistics, however, are of value to the research student in his work of correlating various developments with corresponding changes in the market price of securities.

Once the essential data have been identified by this process it is possible for an organization with sufficiently extensive connections to obtain much of the information direct, without waiting for it to percolate through

## New Technique of Uncovering Security Bargains

official bureaus. In the instance of railroad operation, moreover, a great deal of the stale data has to do with trends in traffic, wage rates, freight rates, commodity prices, maintenance policies, etc. which seldom change very suddenly; so that it is reasonably safe to assume that trends in such items which existed six months ago still continue at the time statistics are released. Fortunately, two of the most vital classes of railroad operating data become available with reasonable promptness. Weekly car loading statistics for individual roads are ordinarily released within fifteen days, and monthly net railway operating income appears usually after an interval of about seven weeks.

### Complex Market Influences

The market price of railroad common stocks is influenced by the same four leading factors that govern the industrials—trend of the general market for all stocks, earnings, dividends, and mergers. But a fifth influence, the question of yield, further adds to the difficulty of forecasting individual price movements in this group; since railroad dividend-paying common stocks are widely held by outright investors for income only. A handful of railroad common stocks have offered excellent short term spec-investment opportunities during the past two years, to those who were able to forecast their trend. Among these were such stocks as Wabash, Western Maryland, Texas & Pacific, etc.; which figured in merger plans, or whose earnings took a sudden change for the better. But old reliable railroad stocks in the investment class—such as New York Central, Atchison, Pennsylvania, Union Pacific, Southern Pacific, etc.—have risen too leisurely to attract the spec-investor who looks for big action within the period of a few months.



## Railroads

Except in their response to merger buying and talk, railroad stocks as a class have of late years, in fact, been extremely sluggish in their response to important prospects and developments. This is in marked contrast to industrial stocks, which respond almost instantly to significant changes in outlook. In February of 1926, for example, THE MAGAZINE OF WALL STREET published a convincing expert analysis and favorable prognosis of the outlook for Texas & Pacific. The stock was then selling below 60; but it took 16 months for the price to rise to 175. To an investor who had bought the stock outright the profit would have been 200%, to be sure, and to a long-pull spec-investor on 50% margin there would have come a 400% profit; but, if an industrial stock were known to have an equally favorable outlook, its prospects might have been fully discounted within a half to a quarter of the time taken by the railroad stock.

There are at least two reasons why railroad stocks are slower than industrials in their response to changes in outlook. The railroads had scarcely emerged from a campaign of adverse public agitation when they fell under the cloud of federal control with consequent loss of control over operating expenses. Spec-investors still find it difficult to shake off the long habit of looking upon railroad stocks as hopelessly stagnant and devoid of startling possibilities. This prejudice and the danger of being swamped with stock from the strong boxes of investors, who have their own ideas of what a stock is worth on a yield basis, have kept pools from operating so extensively in railroad as in industrial stocks. A stock that is left to the scattered buying of investors takes longer to find its true level than when the discounting process is assisted by manipulation. Then again the very absence of mystery, and the complexity of the analytical process of reasoning by which bargains

## New Technique of Uncovering Security Bargains

are discovered, are unfavorable to attracting a large public speculative following in the railroad stocks.

Unless, then, the spec-investor is prepared to assume great risks in endeavoring to guess which way the more volatile railroad stocks are going to move in response to secret merger conferences among influential executives, the rather laborious analytical road must be followed in exploring for railroad bargains. The analytical method applied in this field is sure; but may not yield immediately spectacular results. It tells one what, but seldom when, to buy. With proper study, and sufficient patience, the spec-investor can make good money in railroad stocks; but he must be prepared to hold for a longer pull than when dealing in the industrials. Growing railroad stocks are, indeed, ideal spec-investment media for the busy person who has little time to give to the stock market.

### Railroad Stock Forecasting

If the reader will refer to the Common Stock Price Index published in any issue of THE MAGAZINE OF WALL STREET he may observe that movements in the Railroad Group index conform closely with major movements in the Combined Average of all common stocks. Railroad stocks, as a group, advance and decline with the general market, although not always to the same extent. From the middle of February, 1926, to the middle of July, 1927, railroad stocks rose more rapidly than the Combined Average when the latter advanced, and dropped back less when the general market declined. From the middle of August, 1927, to about the end of May, 1928, this drift was reversed, so that the two indexes came practically together again around the latter date. The railroad group Ratio, described in previous chapters, in fact rose from 95 around the

## Railroads

middle of February, 1926, to 131 by the middle of July, 1927; then dropped back gradually to 100 around the end of May, 1928; and started upward again. The course of average weekly car loadings, and of net railway operating income (the only timely barometers of the railroad industry that are available), compared with the corresponding month of the previous year, is shown in Table I.

TABLE I.

*Comparative Car Loadings and Net Railway Operating Income.*

Month	Comparative Car Loadings (100,000)	Comparative Earnings (\$1,000,000)
1925—December .....	56 inc.	7.9 inc.
1926—January .....	5 dec.	0.3 dec.
February .....	13 inc.	1.9 "
March .....	43 "	21.1 inc.
April .....	17 "	9.8 "
May .....	58 "	11.9 "
June .....	37 "	15.2 "
July .....	60 "	17.2 "
August .....	24 "	8.1 "
September .....	64 "	11.0 "
October .....	94 "	8.1 "
November .....	45 "	7.7 "
December .....	20 "	13.7 dec.
1927—January .....	60 "	4.2 "
February .....	37 "	6.7 inc.
March .....	35 "	0.4 "
April .....	29 "	2.7 dec.
May .....	5 dec.	2.4 "
June .....	34 "	19.9 "
July .....	62 "	32.5 "
August .....	32 "	14.8 "
September .....	48 "	12.7 "
October .....	83 "	12.3 "
November .....	112 "	28.3 "
December .....	110 "	25.6 "
1928—January .....	84 "	5.0 "
February .....	59 "	0.1 inc.
March .....	54 "	4.1 dec.
April .....	43 "	3.1 "
May .....	22 "	
June .....	9 "	

Readers will find it easier to compare the relations between car loadings, earnings, and the Group Ratio by

## New Technique of Uncovering Security Bargains

plotting a chart from the foregoing data, after the manner of those illustrated in Chapters VI to VIII. It will be noted that changes in earnings coincide with, or follow a month later, corresponding changes in comparative car loadings. Owing, however, to the prevalent railroad practice of economizing when earnings are poor and deferring all but immediately necessary expenditures until earnings improve, it will usually be found that the maximum increase and the greatest decrease in comparative earnings occur several months (in the Table, seven to four months) in advance of corresponding turning points in the comparative car-loadings graph.

Bearing in mind that the Group Ratio, in other lines of activity which have been discussed in previous chapters, usually conforms with the outlook for an industry, it is rather puzzling to find that, during the period covered in Table I, the railroad group ratio moved in opposite directions to the comparative earnings graph. Superficially it looks as though a decline in comparative earnings was construed as a bull argument on railroad stocks, and *vice versa*.

Comparing the group ratio graph with the comparative car-loadings graph, however, we find that the former began to advance about the time when car loadings first showed an increase over the year before, turned downward again about the time when the first comparative decrease in comparative car loadings was reported, and again began to advance as car-loadings this summer (1928) came up again to about the volume of last summer. Here again, the seeming sluggishness of railroad stocks in responding to a change in outlook is quite surprising. In other lines of industry a decrease in the *rate* of increase of car loadings perhaps even the earlier decrease in the rate of increase in earnings—would be a signal for the group ratio to decline.

## Railroads

And a slackening in the *rate* of decrease in car loadings, or even earnings, would suffice to start the group ratio on an upward trend. In other words, turning points in an industrial barometer are usually followed soon by corresponding turning points in the group ratio. Why should railroad stocks present an exception to this rule? Wall Street is usually the most wide-awake place in the country when it comes to an appraisal of the investment outlook. Perhaps the solution of this enigma may be found in the fact that public imagination was fired by merger talk during the period when our group ratio was advancing, and was having its high hopes over nearby merger possibilities disillusioned during the period when our group ratio declined. It may be that the market for railroad stocks, during the first half of 1927 and the first half of 1928, was dominated respectively by expectations and disappointments over merger possibilities to the exclusion of changes in the outlook for earnings. Unfortunately, THE MAGAZINE OF WALL STREET's price indexes do not extend back for a sufficiently long period of time to determine the normal relations between car loadings, earnings and the Group Ratio; and no other published price indexes, or market averages, will serve the purpose. That the market prices of railroad stocks must sooner or latter respond to important changes in earnings is a foregone conclusion; but how soon prices *normally* respond to known changes in the trend of earnings, or car loadings, is one of the outstanding problems for future market students to solve. Pending solution of this problem, spec-investors can probably do no better than adopt the following rule for selecting bargains in railroad stocks.

PURCHASE those railroad stocks whose earnings hold promise of increasing at the most rapid rate and which are relatively most under-priced with reference to prospective earnings per share, at a time when indications

## New Technique of Uncovering Security Bargains

point to declining rates for time money and a substantial rise in the general market. The reason for considering the trend in interest rates is that a number of prominent railroad stocks in the investment class, with slower growing or even stationary earnings, sell on a yield basis. When time money declines, the prices of these investment stocks advance and tend to carry other railroad stocks—even non-dividend payers—along with them. It follows also that the prospect of any increase in dividend acts as a strong bullish influence on investment stocks. Other things being equal, a stock that now pays dividends at the rate of \$5 a share is worth 20% more as soon as it is known that the rate will be raised to \$6.

### Forecasting Earnings

When contemplating the purchase of railroad stocks for spec-investment the outlook for increased earnings comes next in importance to the trend of the Combined Average. Table II presents a summary of income and expenditures of all Class I roads; approximated for 1913, the last peak year before the War, and actual for each year from 1920 to 1926 (the latest year for which accurate figures are available at this writing). It should, perhaps, be explained that the Interstate Commerce Commission has divided all operating roads into three classes, according to the amount of gross operating revenue in 1919: Class I, having more than \$1,000,000 of such revenue; Class II, from \$100,000 to \$1,000,000; and Class III, less than \$100,000. Railroad reports and statistics generally cover Class I only, since the combined gross operating revenues of Classes II and III amount to only about 2% of the total for all roads.



# Railroads

TABLE II.  
*Income and Expenses—Class I Railroads, (\$1,000,000)*

	Year—1913	1920	1921	1922	1923	1924	1925	1926
Operating revenues—Total	3183	6178	5517	5559	6289	5922	6122	6380
Freight	2180	4394	3911	3993	4607	4334	4542	4807
Passenger	687	1343	1151	1074	1145	1075	1056	1043
Mail	..	..	96	91	93	98	97	96
Express	..	..	105	143	153	143	145	149
All other	..	..	254	258	291	272	282	285
Operating expenses—Total	2228	5328	4563	4415	4895	4508	4537	4666
Per cent of total operating revenues.....	70.0	94.3	82.7	79.4	77.8	76.1	74.1	73.1
Maintenance of way.....	..	..	756	729	814	793	816	866
Maintenance of equipment.....	..	..	1252	1252	1465	1260	1260	1282
Traffic .....	..	..	84	87	94	99	106	114
Transportation .....	..	..	2252	2140	2309	2141	2129	2181
All other .....	..	..	219	207	213	215	226	223
Net revenue from operations .....	955	350	954	1144	1394	1414	1586	1714
Tax accruals, uncollectible revenues, equipment and joint facility rents.....	150	333	353	384	432	440	465	500
Net railway operating income .....	805	17	601	760	962	974	1121	1214
Other income .....	244	a	375	265	261	269	268	..
Gross income .....	1049	a	976	1025	1223	1243	1389	..
Interest, rents, and other deductions .....	564	641	662	656	668	685	688	..
Net income .....	485	a	314	369	555	558	701	..
Dividends declared .....	328	275	404	275	353	326	349	..
Year's surplus .....	157	a	d90	94	202	232	352	..

a--Not reported during Federal control. d--Deficit.

## New Technique of Uncovering Security Bargains

Passenger revenue, which amounted to 16.3% of total operating revenues in 1926, does not fluctuate greatly from one year to another; though there has been a steady falling-off in this source of revenue since 1920, due largely to competition from motor cars and buses. It is a question, however, if this form of competition results in any appreciable loss in net income. The passenger business has always been looked upon as unduly expensive; and the motor car tends to decentralize population, stimulates building and business activity in outlying districts, and thus helps to build railroad freight traffic.

The country's freight traffic, on the other hand, is subject to ups and downs following corresponding changes in the business and industrial cycle. On individual roads the fluctuations in freight income are frequently of considerable magnitude owing to changing conditions in local industries along the road's main lines, branch lines and connections. For this reason, railroad analysts devote most of their attention to the outlook for operating expenses and freight revenue.

The item, "Other income", or, "Non-operating income," which constituted 19.3% of gross income in 1925, and amounts to about \$2.50 a share on all railroad common stock outstanding, is also of much importance in individual instances. This source of income is net, and usually consists largely of interest and dividends on securities owned as investments, or for control. At the beginning of 1926, 28% of all outstanding railroad common and preferred stock, and 20% of all railroad funded indebtedness, was held by other railroads. Other income does not vary greatly from year to year, except for individual roads which may alter their investments or where there is a change in dividend on stock held. The spec-investor who undertakes to follow railroad stocks closely should keep a list of invest-

## Railroads

ments held by leading railroad companies in order that he may be in a position to appraise immediately any change in earning power caused by dividend changes on the part of other roads. A \$6 dividend on Rock Island, for example, now adds about \$1.50 a share to the earnings of 'Frisco common stock.

Freight income is, of course, dependent upon rates, and volume and character of traffic. Changes in the general level of freight rates are of rare occurrence and are preceded by protracted hearings before the Interstate Commerce Commission which afford the spec-investor ample warning to be on the lookout for such a change. Adjustments of minor character are authorized by the Commission from time to time; but these usually exert little influence upon income as a whole. Rates, traffic, equipment and operating data for Class I carriers are summarized in Table III.

It will be noted that motor car inroads into short haul travel have caused a falling off of 14% in number of passengers carried since 1913, but a compensating lengthening of the average journey; so that total passenger miles remain practically unchanged. Hence the 50% increase in passenger revenue since pre-War days comes solely from the 50% rise in fares.

The growth of 120% in freight revenue between 1913 and 1926 is the composite outcome of a 22% growth in total tonnage handled, a 48% increase in average freight rates, and a 22% lengthening of the average haul. Since freight rates and passenger fares have each risen about 50% since pre-War days, and the length of haul for both freight and passengers has increased in nearly equal ratios; it may be said that the chief reason why freight revenue has increased about 120% while passenger revenue has grown only 50%, is because revenue freight tonnage has been increasing while passenger traffic has been falling off.

# New Technique of Uncovering Security Bargains

TABLE III  
Summary of Rates, Traffic, Equipment and Operating Data for Class I Roads

GENERAL	1913	1920	1921	1922	1923	1924	1925	1926
Track (M miles)—Total .....	341	372	377	379	383	385	388	..
First .....	224	235	235	235	236	236	237	..
Other main .....	31	37	38	38	39	40	41	..
Yard and sidings .....	86	100	104	106	108	109	110	..
Operating revenue per mile of line (\$M) ..	14.6	26.3	23.5	23.7	26.7	25.1	25.9	27.0
Number of employees (M) .....	1815	2023	1660	1627	1858	1751	1744	1782
Payroll (\$m) .....	1374	3682	2765	2641	3004	2826	2861	2949
Per cent of total operating expenses....	61.7	63.2	60.6	59.8	61.4	62.7	63.1	63.2
Average yearly compensation (\$) .....	757	1820	1666	1623	1617	1613	1640	1654
Locomotives in service, tractive power (m Lbs.)	1848	2341	2385	2401	2544	2593	2587	2597
Per locomotive (M Lbs.) .....	30	36	37	37	39	40	41	42
Per cent unserviceable.....	..	..	..	25	21	19	18	17
FREIGHT								
Freight cars in service, capacity (m tons).. <sup>a</sup>	87	98	99	99	101	104	106	107
Per car (tons) .....	38	42	42	43	44	44	45	45
Per cent unserviceable .....	..	7	14	13	8	8	8	6
Average tons of revenue freight—per train	445	639	567	599	632	634	663	..
Per loaded car...	21.1	26.7	24.6	24.3	25.2	24.5	24.6	..
Per cent of capacity	56	64	59	57	57	56	55	..
Revenue freight carried (m tons)—originating	1100	1280	940	1024	1279	1187	1247	1337
connecting	835	1025	750	817	1055	984	1057	1113

# Railroads

Revenue freight—ton-miles (b).....	299	411	307	339	413	388	414	444
per mile of road (M).....	1320	1737	1309	1445	1755	1649	1749	1885
Freight train-miles (m).....	272	321	326	331	323	327	332	332
car-miles (b)—loaded.....	644	620	520	544	631	591	603	..
Freight car-miles (loaded & empty) per day..	14.3	15.3	12.4	13.9	16.4	15.9	16.8	..
Freight cars (loaded & empty) per train...	25.3	26.6	23.3	23.5	27.8	26.8	28.5	30.4
Freight revenue—per train-mile (\$).....	31.6	27.4	26.4	26.3	25.3	24.2	23.1	..
per loaded car-mile (cents).....	3.24	6.81	7.38	7.19	7.19	7.22	7.41	7.59
per ton-mile (cents).....	15.5-x	28.1	31.4	28.6	28.1	27.3	26.9	27.0
Lbs. Coal consumed per 1,000 gross ton-miles	0.73	1.07	1.28	1.18	1.12	1.12	1.10	1.08
	232	197	185	186	183	170	159	155
PASSENGER								
Passenger cars in service (M).....	43-x	54	54	54	55	55	55	54
Passengers carried (m).....	1004	1235	1035	967	987	933	888	860
Average passengers per train.....	55	80	67	65	67	63	63	61
Average cars per train.....	5.66	6.37	6.25	6.32	6.39	6.45	6.57	6.54
Average passengers per car.....	9.9	12.5	10.7	10.3	10.5	9.8	9.6	9.3
Passenger-miles (b).....	34	47	37	35	38	36	36	35
Average miles per passenger.....	33	38	36	37	38	39	40	41
Passenger train-miles (m).....	580	562	555	541	561	566	570	580
car-miles (m).....	3280	3583	3469	3414	3585	3646	3746	3792
Passenger revenue—per train-mile (\$).....	1.36	2.78	2.51	2.50	2.56	2.41	2.37	..
per passenger-mile (cents).....	2.01	2.75	3.09	3.03	3.02	2.98	2.94	2.94
Lbs. Coal consumed per passenger car-mile..	19.8	18.8	17.7	17.9	18.1	17.0	16.1	15.8
M—Thousands.	m—Millions.	b—Billions.						
		x—1915.						

## New Technique of Uncovering Security Bargains

### Character of Freight Tonnage

It will be observed that there has been a gradual lengthening in average haul and a slow sag in ton-mile freight rates since 1921. While some part of this tendency may be attributed to motor truck inroads into the short haul traffic, the chief explanation seems to lie in the rapid growth in tonnage of the heavier commodities which carry lower freight rates, in comparison with merchandise and L. C. L. freight which fall under higher tariff classifications. Table IV discloses this drift quite clearly.

Close study of Table IV will show the importance of analyzing the character of freight handled by individual roads, and how widely the tonnage of specific commodities fluctuates from one year to another, especially in response to changes in the industrial cycle. Metal ore, metals and metal products are extremely sensitive to changes in business activity; next in reputation for wide fluctuations come the products of forest and quarries used in the building industry; and then comes bituminous coal. On the other hand, Nature is more responsible than Business for year-to-year fluctuations in agricultural tonnages.

The arrangement in Table IV is rather different from that adopted by the Interstate Commerce Commission, in order to bring out more clearly the relative importance of the three principal sources from which railroad tonnage is ultimately derived. Practically all of our material wealth comes, of course, from the earth; and, by allocating the products of manufacture pro rata to the three principal sources from which the raw material was derived, one arrives at the conclusion that about 78% of railroad freight tonnage in 1926 originated in our mines and quarries, 13% in the fields, and 9% in the forests.



# Railroads

TABLE IV  
Character of Revenue Freight Carried by Class I Railroads  
(Million short tons)

	1913	1920	1921	1922	1923	1924	1925	1926
(Estimated)								
<b>PRODUCTS OF THE FIELDS—Total.....</b>	151	147	151	149	157	149	155	155
Animals and animal products—Total .....	136	124	123	120	128	122	126	126
Products of Agriculture—Total .....	24	27	28	29	29	27	29	29
Grain and mill products .....	112	124	123	120	128	122	126	126
Fruits, vegetables and canned goods.....	64	71	77	72	77	67	69	69
Cotton, cottonseed, vegetable oils & textiles	15	17	18	19	19	20	21	21
Hay, straw and alfalfa .....	10	11	9	8	10	12	14	14
Sugar and syrups .....	9	8	5	6	6	6	5	5
All other .....	4	6	5	5	5	5	6	6
<b>PRODUCTS OF THE FORESTS—Total.....</b>	10	11	11	8	10	11	11	11
Logs, ties, lumber and lumber products..	115	104	79	92	118	111	108	108
Pulpwood, paper and printed matter.....	95	93	69	83	107	100	96	96
All other .....	6	8	8	7	8	9	9	9
<b>PRODUCTS OF MINES, WELLS AND QUARRIES—</b>	4	3	2	2	3	3	3	3
Total .....	751	840	600	645	858	776	835	922
Bituminous coal .....	308	384	289	288	361	320	346	389
Clay, gravel, sand, stone, brick, cement, lime, plaster, sewer pipe and drain tile	138	136	120	144	182	186	199	212
Iron ore, coke, steel and iron and their products .....	176	168	66	105	160	118	144	153
Anthracite coal .....	80	78	77	49	83	76	58	76
Asphalt, petroleum and its refined products	14	38	34	39	47	52	60	63
Other ores, metal and metal products...	21	27	8	13	17	16	19	20
Salt .....	3	3	3	3	3	3	3	3
All other .....	11	6	3	4	5	5	6	6
<b>PRODUCTS OF MANUFACTURE—Total .....</b>	125	162	116	136	156	143	153	155
Chemicals and explosives .....	7	8	6	8	8	8	10	10
Fertilizers .....	7	9	6	7	8	8	8	8
Automobiles and trucks .....	2	3	3	4	7	6	7	7
Ice .....	8	6	7	5	4	4	5	4
Agricultural implements .....	2	3	2	2	3	2	2	2
Beverages .....	4	1	1	1	1	1	1	1
Household goods and furniture.....	2	3	1	1	2	1	1	1
All other (car load lots) .....	47	76	48	65	77	72	78	83
Merchandise (L. C. L.) .....	46	53	42	43	44	41	41	39
<b>GRAND TOTAL .....</b>	1127	1257	942	1024	1281	1187	1248	1340

## New Technique of Uncovering Security Bargains

By analyzing the principal classes of commodities ordinarily hauled by individual roads it is possible to form a rough estimate of how conditions in various industries along the line will affect the road's earnings; but it should be observed that freight rates vary greatly for different commodities, so that tonnage analyses do not lead to accurate estimates of freight revenue. It is gratifying to know, however, that, beginning with the first quarter of 1928, all Class I railroads are to report to the Interstate Commerce Commission detailed statistics of gross freight revenue received from each of a great number of different commodities. Such reports will become available before this book is off the press, and should be of great assistance in estimating the earnings of individual roads.

### Operating Expenses

Great gains in operating efficiency have been made since the railroads were restored to private management. Since 1920, the last year of Federal control, operating expenses have been brought down from 94.3% of operating revenues to 73.1% in 1926. The latter ratio is only 3.1% above the excellent showing of 1913. Wooden freight cars, with their high maintenance costs, have been replaced by steel cars of larger capacity; heavier, faster, and more economical locomotives have been installed; trains have been shortened and speeded up, thereby effecting considerable savings in labor costs per ton-mile; and equipment is kept in better repair. Many economies have resulted too from the gratifying increase in density of traffic per mile of road. The decline in cost of fuel, material and supplies has also been a considerable factor, as will be appreciated from a glance at Table V, showing the chief items of operating expense in 1926. Secular changes of this character

## Railroads

are, however, of greater interest to the long pull investor.

TABLE V

*Principal Items of Operating Expense, Class I Roads, 1926*

		Per Cent
Wages .....		63.3
Material and supplies		
Steel and iron .....	10.8	
Forest products .....	4.0	
Other .....	8.4	23.2
Fuel		
Bituminous, @ \$2.70 .....	8.1	
Other .....	2.0	10.1
All other expenses .....		3.4
Total .....		100.0

What the spec-investor needs to watch with especial interest, in his analyses of individual roads, are expenditures for maintenance of way and equipment. A large portion of such expenditures are not obligatory in any one year; so that many roads during lean years, and all roads with chronically poor earnings, skimp on maintenance charges, sometimes at the expense of adequate property upkeep. When earnings improve, the opportunity is grasped to bring roadway and equipment into efficient condition, and maintenance expenditures will be abnormally high for a period. This is known as "Plowing earnings back into the property". So long as maintenance expenditures remain abnormally high, net income will fail to reflect the full improvement in operating revenues; but as soon as the improvement campaign is completed, maintenance expenditures will be reduced to a normal level, perhaps even below normal for a period, and the outcome will be a sudden marked improvement in net income which will find reflection sooner or later in the market price of the stock. Texas & Pacific, during the first six months of 1928, offered a striking

## New Technique of Uncovering Security Bargains

example of such a situation. Spec-investors will find it especially worth while to be on the lookout for changes in maintenance programs.

### Recapture

The so called "Recapture clause" of the Transportation Act of October, 1920, provides that the excess of "Net Railway Operating Income" above 6% on property value, as valued by the Interstate Commerce Commission "for rate-making purposes", shall be divided equally between two reserve funds. One fund must be reserved by the railroad earning the excess, and accumulated until it amounts to 5% of the road's property value. This fund may be drawn upon, however, for the purpose of stabilizing the dividend in case the net railway operating income shall fall in any year below 6% of property value. The other half of excess earnings above 6% must be turned over to the Government to be held as a revolving fund from which roads that do not earn 6% on property value may borrow by giving adequate security.

Net Railway Operating Income, is what remains after deducting all railway operating expenses, taxes, uncollectible railway revenues, together with net equipment and joint facility rents. It does not include "Other income", which is a considerable item with some roads. The Commission has adopted, as a basis of valuation, original cost less depreciation. The railroads hold that "Cost to reproduce" is a fairer basis, and the dispute must ultimately be adjudicated by the Supreme Court, or decided by Act of Congress.

That earnings of our railroads as a whole are still a considerable distance below the recapture point will be gathered from Table VI, which the spec-investor may find convenient for other reference purposes.

# Railroads

TABLE VI  
*Capitalization of all Reporting Railroads*

	1913	1920	1921	1922	1923	1924	1925
Stock outstanding (\$1,000,000)—Total	8600	8843	8890	8962	9093	9300	9413
Common	7233	7200	7127	7164	7266	7400	7493
Preferred	1377	1643	1763	1798	1827	1900	1920
Held by other railroads (Com. and Pfd.)	2770	2407	2402	2390	2402	2668	2654
Per cent of stock, includ. Pfd., paying dividends	66	57	57	59	62	65	67
Dividends, per cent on all stock outstanding...	4.22	3.74	5.13	3.78	4.53	4.14	4.35
Funded debt (\$1,000,000,000)	11.2	12.8	13.2	13.1	13.6	14.2	14.1
Held by other railroads	1.7	2.5	2.8	2.6	2.6	2.8	2.8
Net funded debt, per cent of total net capitalization	62	60	61	61	62	63	62
Interest accrued on funded debt (\$1,000,000).....	435	500	529	539	552	588	584
Average interest rate	3.89	3.92	4.00	4.10	4.06	4.15	4.14
Total net capitalization (includ. treasury stock) (\$b)	15.4	17.0	17.1	17.3	17.8	18.2	18.2
Per mile of road (\$1,000)	66.0	68.8	69.8	70.9	73.4	75.3	74.5
Investment (book value) (\$1,000,000,000).....	16.6	19.8	20.3	20.6	21.4	22.2	22.7
Per mile of road (\$1,000)	69.8	82.0	84.5	86.0	89.6	93.2	95.6
Net railway operating income, per cent on investment	4.86	0.06	2.96	3.74	4.56	4.44	5.00

b—Billions.

## New Technique of Uncovering Security Bargains

Investors frequently make too much of a bugaboo of the Recapture Clause. In point of fact few roads earn enough to come within its provisions, and roads with a relatively high property value and low capitalization will be able to earn a handsome amount for their common stocks before dividing anything with the government. Take the Central Railroad of New Jersey, for example, which could earn \$26.90 on its common stock from railway operations alone before recapture. Other income in 1927 came to \$7.28 on the common; so that total earnings on the common could be \$34.18 before recapture. In 1927 the common actually earned only \$19.94. Spec-investors will find it well worth while to prepare a table showing maximum possible earnings of principal roads before recapture, compared with actual current earnings per share.



## CHAPTER X

### Public Utilities

IN this Chapter we consider briefly that wide class of companies which operate under public franchise, and whose service charges are thus regulated by Federal or State Commissions or both, according to whether their business is or is not interstate in character. In the strict sense of the term, Railroads are also Public Utilities, though usually not so classified. Many of the securities of leading Public Utility companies are not listed on the New York Stock Exchange, so that the investor, or spec-investor, who wishes to cover the field thoroughly must also canvass the Curb and Over-the-counter markets for bargains.

The relative importance of various sub-divisions of the Public Utility field may be gleaned from the following Summary.

TABLE I

*Estimated Gross Income and Property Values of Principal Public Utility Groups for 1926*

Group	(\$1,000,000)	
	Gross Income	Property Value
Electric Power and Light.....	1662	7300
Electric Railways .....	1300	5300
Telephones .....	874	3000
Manufactured Gas .....	460	1800
Natural Gas (for Light and Power).....	250	1000
Telegraph and Cable .....	190	400
Water Works (privately operated).....	120	400
Total .....	4,856	19,200
Railroads .....	6,400	23,000

# New Technique of Uncovering Security Bargains

## Spec-Investment Considerations

Aside from the usual factors that determine changes in the market price of other stocks, such as changes in earnings per share, merger activities, yield, changes in dividend rate, falling out-of-line on a times-earnings basis, etc., there are several special considerations that must be taken into account by the spec-investor. These vary some according to the special group of Utilities in question. In a general way it may be said that the most significant of these special considerations fall under the three main headings of politics, rate of growth, and changes in capitalization. As with the Railroads, changes in operating expenses are too slow in this industry to be of great concern to the spec-investor. Such changes as do occur will be duly reflected in earnings, which are the most important single factor to be watched. Public attitude toward the Public Utilities, as reflected in political activities, is, however, a matter of great concern. When the public attitude is critical and hostile, and various investigations and movements to reduce rates are in the air, Public Utility stocks lag behind the general market and are thus temporarily unattractive as spec-investments. When, however, as of recent years, politicians are content to leave the Utilities to manage their own affairs, and even consent to rate increases as needed, then the Utility stocks usually forge ahead of the general market. From the beginning of 1926 to the end of July, 1928, for example, THE MAGAZINE OF WALL STREET's Public Utility group index has risen 24% more rapidly than the Combined Average.

The capital structure of many of the larger Public Utility companies, especially the holding companies, is extremely complicated. Steps are continually being taken by such companies, however, to simplify their

## Public Utilities

capital structure, and such changes frequently result in noteworthy changes in net income left for the common stock after prior charges. When analyzing earnings per share of a holding company it is essential to consider the consolidated income account. Earnings of the holding company alone consist chiefly of dividends received from subsidiaries, and thus give only an incomplete picture of the stability and rate of growth of the system as a whole.

Except during times of merger activities, and when applications for rate increases are under consideration, it may be said that Public Utility stocks, like the Railroads, usually offer better opportunities for longer pull than for shorter pull spec-investment. In many instances Public Utility stocks offer more attractive long pull spec-investment opportunities than the railroads; for they grow more rapidly. The rate of growth, however, varies much in different sub-groups, as will appear in the following sections with their accompanying statistical Tables. We shall confine our mention of individual companies to stocks listed on the New York Stock Exchange.

### The Traction

The data in Table II give one the impression of an industry that has sprung up and reached its zenith within the brief span of a single generation. During the decade, 1912-22, track and passenger car equipment have shown little increase. Number of passengers carried reached at least a temporary peak in 1925. The average speed of cars has even dropped a little since 1907. Gross operating revenue nearly doubled between 1912 and 1922; yet net income in the meantime fell off 16%. Reasons for the poor showing made by the tractions since pre-War days are, of course, well known. Traffic

# New Technique of Uncovering Security Bargains

TABLE II  
*Secular Progress of Electric Railway Industry*

PROPERTY	1890	1902	1907	1912	1917	1922	1925	1927
Track operated (1,000 mis.)—Total .....	8.1	22.6	34.4	41.1	44.8	43.9	..	..
By electricity ...	1.3	21.9	34.0	40.8	44.7	43.8	..	..
By animal traction ..	5.7	0.3	0.1	0.1	..	..	..	..
All other .....	1.1	0.4	0.3	0.2	0.1	0.1	..	..
Elevated (mis.) .....	..	..	362	418	497	602	..	..
Underground (mis.) .....	..	..	75	113	219	326	..	..
First track (1,000 mis.) .....	..	..	25.5	30.4	32.5	31.3	..	..
Other main tract .....	..	..	6.9	7.9	8.9	9.1	..	..
All other .....	..	..	2.0	2.8	3.4	3.5	..	..
Number of cars (1,000)—Total .....	..	..	83.6	94.0	102.6	99.3	..	..
Passenger .....	32.5	60.3	70.0	76.2	79.9	77.3	..	..
Other revenue .....	..	..	5.7	7.8	11.5	11.4	..	..
Service .....	..	..	7.9	10.0	11.2	10.6	..	..
Number of electric locomotives .....	..	..	117	277	357	404	..	..
Horsepower of power-plant (1,000,000)—Total .....	..	..	2.52	3.66	4.20	4.12	..	..
Steam turbines .....	..	..	0.54	1.46	2.32	2.86	..	..
Other steam engines.....	..	..	1.88	1.70	1.22	0.83	..	..
Water wheels and turbines .....	..	..	0.09	0.47	0.63	0.40	..	..
Internal combustion .....	..	..	0.01	0.03	0.03	0.03	..	..
Kilowatt capacity of generators (1,000).....	..	..	1723	2505	2925	2973	..	..
Value of road and equipment (\$1,000,000)...	389	2168	3638	4597	5136	5059	..	..
Funded debt .....	..	..	1677	2335	3058	3118	..	..
Capital stock .....	..	..	2032	2379	2474	2329	..	..
INCOME ACCOUNT, OPERATING COS. (\$1,000,000)								
Gross operating revenue—Total .....	91	248	418	568	710	1017	..	..
Subway and elevated lines .....	..	..	..	..	..	106	..	..
Passenger .....	..	..	382	503	603	855	..	..
Auxiliary operations .....	..	..	17	32	60	91	..	..
Other operating income .....	..	..	19	33	47	71	..	..
Operating expenses—Total .....	62	142	251	333	453	728	..	..
Per cent of gross operat. revenue—all roads ..	68.4	57.5	60.1	58.7	63.8	71.6	..	..
Subway and "L" lines ..	..	..	..	..	..	63.9	..	..

## Public Utilities

Maintenance of way and structures.....	..	29	44	55	102	..
Maintenance of equipment .....	..	31	39	49	87	..
Power .....	..	44	54	77	107	..
Conducting transportation .....	..	97	129	175	287	..
Auxiliary operations .....	..	6	14	31	49	..
All other .....	..	44	53	66	96	..
Net operating revenue .....	29	105	167	235	257	289
Taxes (deduct) .....	..	20	35	46	65	..
Operating income .....	..	147	200	211	224	..
Non-operating income (add) .....	..	12	18	20	32	..
Gross income .....	..	159	218	231	256	..
Deductions from gross income—Total..	..	118	150	175	199	..
Rent for leased roads .....	..	48	45	48	44	..
Interest on debt .....	..	64	98	119	139	..
Miscellaneous .....	..	6	7	8	16	..
Net income—All roads .....	..	40	68	56	57	..
Subway and "L" lines .....	..	..	52	48	d-0.5	..
Dividends .....	..	26	..	..	37	..
Year's surplus .....	..	14	16	8	20	..
RATES AND TRAFFIC DATA						
Employees—Total number .....	71	221	282	295	301	..
Compensation (\$1,000,000) .....	..	151	201	267	402	..
Average wage and salary (\$) .....	..	683	713	905	1335	..
Electric energy consumed (billion K.W.H.)..	..	..	9.0	12.2	12.4	..
Generated .....	..	4.8	6.0	7.2	6.5	..
Purchased .....	..	..	3.0	5.0	5.9	6.6
Cost of energy purchased (c per K.W.H.)	..	..	..	..	..	7.7
Revenue passengers carried (billions).....	2.0	4.8	7.4	9.5	11.3	0.90
Average fare (cents) .....	..	..	2.1	2.5	3.2	13.8
Free passengers (transfers and passes)..	..	..	..	..	..	7.57
Buses operated by electric railways (No.)	..	..	..	..	..	7.92
Revenue car—miles (1,000,000) .....	..	1618	1922	2140	2125	..
Ave. speed, revenue cars (miles per hour)	..	10.7	10.1	10.5	10.5	..
Rev. passengers per mile of all track (1,000)	..	217	233	252	289	..
per passenger car-hour (No.) .....	..	43.1	48.4	53.7	61.1	..

d-Deficit.

## New Technique of Uncovering Security Bargains

congestion in the large cities has rendered it all but impossible to improve the service, while automobile and motor bus competition along interurban lines has checked the growth in suburban business.

In the meantime, rapid growth in taxes and fixed charges, along with swiftly mounting expenditures for maintenance that had been too long neglected, more than ate up what might otherwise have been regarded as a satisfactory increase in gross operating revenue. Political influences have rendered it impossible to raise fares sufficiently to compensate for these mounting expenses. Most of the leading traction shares listed on the 'Big Board' are of companies operating in New York City, which has thus far been especially backward in admitting the need for increased fares. Owing to the intimate association between politics and the vital issue of fares, it has been all but impossible to forecast price movements in the traction stocks on economic grounds. *Spec-investors who take a position in such stocks must either rely solely upon their reading of the technical position, or else gamble on the whimsical turns of the political weather-vane.*

### Electric Light and Power

The great majority of Public Utility stocks listed on the New York Stock Exchange are of large integrated companies, operating not only electric light and power plants but also gas, water, and traction services. Most of these cover such a wide territory that they are well protected against sudden fluctuations in earnings. Their diversification of activity is not only economic but geographic. The growth of such companies during the past quarter century has been phenomenal, and there is as yet no indication that they are even approaching the saturation point. The rapidity of this growth is evi-



# Public Utilities

TABLE III  
Secular Progress of Electric Light and Power Industry

CENTRAL STATION DATA	1902	1907	1912	1917	1922	1925	1926	1927
Aggregate capitalization (\$ billions).....	..	..	2.1	2.9	4.5	6.6	7.5	8.4
Funded debt .....	..	..	0.9	1.3	2.4	..	..	..
Capital stock .....	..	..	1.2	1.6	2.1	..	..	..
Value of property (\$ billions).....	..	2.2	3.1	4.5	4.2	6.5	7.3	8.1
Sales of securities (\$ millions).....	..	..	..	..	720	1280	1388	2129
Through investment houses .....	..	..	..	..	590	982	1151	1889
Direct to customers .....	..	..	..	..	130	298	237	240
Rated generator capacity (million K.W.).....	1.2	2.7	5.2	9.0	14.3	19.3	21.3	23.0
Current generated (billion K.W.H.).....	2.5	5.9	11.6	25.4	40.3	56.5	63.9	69.4
Current purchased .....	..	..	2.6	5.6	10.0	..	..	..
Current sold (billion K.W.H.).....	..	..	..	25.8	42.0	..	..	..
For light .....	..	..	..	5.1	9.8	14.1	15.3	16.7
For power .....	..	..	..	13.2	18.6	27.2	31.7	34.8
To electric railways .....	..	..	3.0	5.0	5.9	6.6	..	7.7
To other public service corporations.....	..	..	..	2.5	7.7	..	..	..
Population of U. S. (millions).....	79	87	95	102	110	115	117	119
Number of customers (millions) .....	..	1.9	3.8	7.2	12.7	18.5	20.2	21.7
Household .....	..	..	..	..	10.2	15.0	16.4	17.6
Commercial .....	..	..	..	..	2.0	2.7	3.0	3.2
Industrial power .....	..	..	..	..	0.5	0.8	0.8	0.9
Per cent of population living in electric lighted homes .....	..	..	..	..	..	..	..	..
Energy sold (K.W.H. per capita)—For light .....	..	..	..	..	..	..	..	..
For power .....	..	..	..	..	..	..	..	..
Employees (1,000) .....	..	..	..	..	39	56	60	63
Average annual compensation (\$).....	..	..	..	50	93	123	131	140
Consumption of fuel (includes elec. railways)	..	..	..	129	170	236	271	292
Coal (million short tons) .....	..	..	..	..	..	..	..	..
Fuel oil (million bbls.) .....	..	..	..	..	34	40	41	..
Gas (billion cu. ft.) .....	..	..	..	..	13	10	9	..
Total, coal or coal equivalent (lbs. per K.W.H.)	..	..	..	..	27	47	53	..
Gross revenue from sale of electric energy (\$ million) .....	..	..	..	..	2.5	2.1	2.0	..
Av. retail light. rates (cents per K.W.H.)	..	..	..	539	1090	1468	1662	1775
For light .....	..	..	..	..	7.8	7.5	7.4	..

## New Technique of Uncovering Security Bargains

denced by nearly every line of statistical data presented in Table III. The output of electric energy is indeed growing so much more rapidly than the population that it has been possible to reduce rates and yet show ever increasing net profits. More and more homes are every year becoming electrically lighted, more and more electric household appliances are being installed, and more and more electric power is being used in industry. Growth in sales of electric power for industrial purposes has been greatly stimulated by the policy of making the price to large consumers so low that it does not pay consumers to install and operate isolated plants of their own. In this connection it seems worth remarking, however, that sales of electric energy as currently reported monthly does not constitute a reliable barometer of general business conditions, as is sometimes claimed. The output of electric energy is so far from having reached the saturation point that it continues to mount—although at a somewhat less rapid pace—even when industry is slowing down.

It is important to observe that the earnings of some individual companies increase at a rate more rapid than that of the industry as a whole; largely because such companies are committed to a policy of expansion, either through reinvestment of profits or by acquisitions through exchange of stock. In instances where such expansion is very rapid it may result in a temporary drop in earnings per share while expenses of new acquisitions are being written off, or until newly constructed plants (partly paid for out of earnings) begin to show adequate returns upon the investment. *Such intervals of growing pains merely afford to the alert spec-investor rare opportunities to pick up bargains.*

Data compiled by the Census Bureau, and condensed in Table IV, show that gross and net earnings of all the leading Public Utilities (except Telephone and

## Public Utilities

Telegraph) have increased three-fold since 1913. These figures are released monthly through the Department of Commerce.

TABLE IV

*Combined Earnings of 95 Leading Public Utility Companies*  
(Exclusive of Telephone and Telegraph)

	1913	1917	1922	1927
Gross (\$1,000,000) .....	630	845	1435	1995
Net (after taxes) .....	257	308	447	775
Per cent operating expenses .....	59.2	63.5	68.9	61.1

## Gas Companies

There are no companies engaged solely in the manufacture and sale of gas listed on the Big Board. Consolidated Gas Companies of New York and of Baltimore also supply electric energy for light and power. Examination of Table V will disclose that the manufactured gas industry has grown at a much slower rate than the electric industry.

The rate at which the natural gas industry—represented by such typical companies as Houston Oil and Columbia Gas and Electric—has expanded is more rapid, however, owing largely to the low prices at which the natural product can be sold. Despite the evidence advanced by Census figures of gas sales in 1923 and 1925, the gas industry has probably not reached a saturation point. Recent strategy adopted by leading gas companies in reducing the price of gas to large consumers, seems destined to revive the demand for this product by greatly stimulating its use for industrial purposes. Adoption of the revised rate schedules by such leading companies as Consolidated Gas and Brooklyn Union Gas, together with merger negotiations, have recently afforded attractive spec-investment opportunities in these issues; but, as a general rule, *gas stocks meet the needs of long pull investors; while*

# New Technique of Uncovering Security Bargains

TABLE V  
*Secular Progress of the Gas Industry*

MANUFACTURED GAS	1904	1909	1914	1919	1921	1923	1925	1926
Quantity produced and purchased (billion cu. ft.)				322	360	418	457	498
Produced	..	..	..	271	295	314	324	..
Purchased	..	..	..	51	65	104	133	..
Source: American Gas Association								
Coke-oven gas	..	..	..	..	37	66	77	..
Natural gas	..	..	..	..	28	38	56	..
Quantity sold	114	143	199	300	327	385	421	459
Average price for household purposes (\$ per 1,000)	..	..	0.94	1.04	1.32	1.25	1.23	1.23
(Following data are from Bureau of the Census)								
Gas for sale (billion cu. ft.)	..	151	204	308	306	357	359	..
Value (\$ per 1,000)	..	0.92	0.86	0.91	1.21	1.11	1.10	..
Coke for sale (1,000 short tons)	..	1641	2282	2458	2031	2175	2398	..
Tar for sale (million gals.)	..	78	126	121	114	109	125	..
Value of products (\$1,000,000)	..	167	220	329	411	450	455	..
Gas	..	139	175	282	372	395	396	..
By-products	..	28	45	47	39	55	59	..
Primary horsepower (1,000)	..	128	213	238	359	428	..	..
Wage earners (1,000)	..	37	44	43	35	42	47	..
Average compensation (\$ per annum)	..	562	612	1230	1525	1410	1435	..
Bituminous coal used (1,000 short tons)	..	..	..	6194	5707	6238	6871	..
Anthracite coal used (1,000 long tons)	..	..	..	1307	1130	983	619	..
Gas and fuel oil used (million gals.)	..	578	715	882	842	874	892	..
NATURAL GAS								
Consumed for domestic and industrial heating and lighting (b cu. ft.)	..	..	..	696	610	898	1048	..
Average value (c per 1,000)—Atwells	..	..	..	34.6	11.1	10.0	9.4	..
At point of consumption—Domestic	..	..	..	14.8	44.1	51.4	56.0	..
Industrial	..	..	..	2501	15.5	13.4	12.3	..
Number of domestic consumers (1,000)	..	..	..	2631	3234	3536	..	..

NOTE:—Apparent decline in Census figures for 1921 was due to change in classification.

## Public Utilities

*offering fewer opportunities for quick profit to the shorter pull spec-investor.*

It is interesting to note that a 200% expansion in manufactured gas sales since 1909 has been accompanied by an increase of less than 30% in the number of employees. The extent to which machinery has replaced labor in this branch of the industry is evidenced by the contrasting increase of 234% in primary horsepower during the same period. It should also be observed that the figures given for natural gas consumption cover only a small proportion of the total quantities produced. The major portion of our natural gas output is consumed in the production of carbon black and of natural gas gasoline.

### The Telephone Industry

The phenomenal growth of the Telephone Industry since the beginning of this century, and the rapid rate at which the American Telephone and Telegraph Company has absorbed other systems, are shown strikingly in Table VI. The American Telephone and Telegraph Company's common stock, though regarded as the premier investment stock of America, seldom offers opportunities for quick profits to the spec-investor, except prior to the declaration of rights which are offered to stockholders every few years. The company has announced that future increases in earnings will be used to reduce rates, rather than increase the rate of dividend; and the policy has been followed for some years to expand capitalization *pari passu* with the growth in profits. As a result of these policies, both the dividend rate and earnings per share have remained stationary for a number of years; so that the stock tends to sell on a pure yield basis, after making due allowance for the value of rights. Holders of International Tele-

# New Technique of Uncovering Security Bargains

TABLE VI

## *Secular Progress of the Telephone Industry*

All Systems	1902	1907	1912	1917	1922	1926
Miles of wire (millions).....	4.9	13.0	20.2	28.8	37.3	..
Number of telephones (millions).. <td>2.4</td> <td>6.1</td> <td>8.7</td> <td>11.7</td> <td>14.3</td> <td>..</td>	2.4	6.1	8.7	11.7	14.3	..
Per 100 population.....	3	7	9	11	13	15
Number of calls originated (mil- lions) .....	..	..	..	21.8	24.6	..
Employees (thousands) .....	..	..	..	263	312	..
Average compensation (\$). ....	..	..	..	669	1130	..
Investment in plant and equipment (\$1,000,000) .....	..	..	..	1492	2205	..
Total operating revenues (\$1,000,000) .....	..	..	181	270	581	874
Net operating income .....	..	..	51	68	128	209

## American Telephone and Telegraph Co. and Associated Operating Companies (Bell Telephone System)

	1900	1905	1910	1915	1920	1926
Miles of wire (millions).....	2.0	5.8	11.6	18.5	25.4	50.9
Telephone stations (millions)....	0.9	2.5	5.9	9.2	12.6	17.6
Exchange messages (millions)....	..	..	7.9	9.2	11.6	18.3
Toll messages (thousands) .....	..	..	220	299	484	866
Employees (thousands) .....	..	..	120	156	231	301
Value of plant (\$1,000,000).....	..	..	611	880	1364	2783
Funded debt (\$1,000,000).....	..	..	225	353	586	922
Capital stock (\$1,000,000).....	..	..	345	441	511	1313
INCOME STATEMENT (\$1,000,000)						
Gross revenues .....	..	..	166	240	461	845
Expenses .....	..	..	115	174	382	640
Net revenue .....	..	..	51	66	79	205
Interest .....	..	..	12	18	21	50
Net income .....	..	..	39	48	58	145
Dividends .....	..	..	25	33	40	100
Balance .....	..	..	14	15	18	45

phone and Telegraph stock, on the other hand, may doubtless look for gradual appreciation in the market price; since the company is engaged in a program of expansion of which some of the benefits may be passed along to stockholders.

## The Telegraph and Cable Industry

This branch of the industry, which is the oldest of all the Public Utilities, passed its period of most rapid growth before the opening of the twentieth century.



## Public Utilities

As will be seen from Table VII, the industry made slow progress during the decade 1902-12; but took on renewed life during the following decade.

TABLE VII  
*Secular Progress of the Telegraph and Cable Industry*

All Companies				
	1902	1912	1917	1922
Miles of pole line (1,000).....	238	248	..	253
Miles of wire (1,000).....	1318	1814	..	1853
Nautical miles of ocean cable (1,000).....	..	67.7	..	76.7
Number of offices (1,000).....	27.4	30.9	..	27.4
Value of plant and equipment (\$1,000,000).. <td>162</td> <td>222</td> <td>243</td> <td>327</td>	162	222	243	327
Funded debt .....	46	63	62	71
Capital stock .....	117	164	167	177
Number of telegrams sent (millions).....	91	103	..	182
Number of cablegrams sent .....	0.8	5.8	..	9.6
Income, all sources (\$1,000,000).....	41	65	110	152
Expenses, including taxes and interest.....	31	58	92	128
Dividends .....	6.3	6.2	9.8	10.7
Employees (1,000) .....	27.6	37.3	..	68.6
Salaries and wages (\$1,000,000).....	15	25	..	76

### Western Union Telegraph Co.

	1870	1880	1890	1900	1910	1920	1926
Miles of pole line and cable (1,000) .....	54	86	184	193	214	246	250
Number of offices (1,000)...	4.0	9.1	19.4	22.9	24.8	24.9	24.7
Receipts (\$1,000,000) .....	7	13	22	25	34	121	136
Net income .....	2	6	7	6	7	13	15

Western Union Telegraph is the oldest and leading company in this industry. Dividends at varying rates have been paid on the Common since 1874; but earnings per share have made little progress since 1917. It is one of the few Public Utilities whose earnings are likely to be greatly affected by industrial depressions. For these reasons, and owing to exaggerated (we think) fears of competition from the rapidly expanding Radio industry, Western Union stock currently sells on a relatively high yield basis. It seems attractive as a business man's investment for income only; but seldom offers startling spec-investment opportunities for quick profits.

# New Technique of Uncovering Security Bargains

## Market Indicators

*The best spec-investment opportunities among Public Utilities are to be found in the common stocks of rapidly growing, well integrated and diversified, Electric Light and Power companies. Most of these companies report earnings monthly, so that it is a comparatively easy task to keep posted on their progress. The indications for buying Electric Light and Power stocks are the same as for the Railroads. The rule is to buy those stocks whose earnings show the greatest rate of increase compared with corresponding months of the year before, at a time when indications point to a rise in the general market. They should be sold when earnings begin to fall off compared with the previous year, or when indications point to a major reaction in the general market.*

Here again, as with the Railroads, we find a group of stocks which is strangely sluggish in responding to changes in the outlook. Industrial stocks seldom wait for an actual increase or decrease in comparative earnings; but usually show a change in market trend soon after earnings reach the peak of the comparative earnings curve. The relations between comparative earnings and the price movements of a stock are, of course, not always exact; for it frequently happens that the price will over-discount the nearby prospects, and this may lead to a profit-taking reaction, even while earnings continue to show an increase over the year before. A typical example of how the rule works out in practice is given in Table VIII, which shows the comparative monthly earnings, and principal price movements of American Water Works and Electric Co. from the beginning of 1925 to the middle of 1928. During the past half dozen years this stock has witnessed one of the

## Public Utilities

most phenomenal advances of any listed on the New York Stock Exchange.

TABLE VIII

*Comparative Monthly Earnings and Principal Price Movements  
American Water Works and Electric Co.*

Month 1926	Comparative Monthly Earnings (\$1,000)	Price near end of month (Compensated for 2:1 Split-up)	Combined Average
January .....	106 inc.	36	101
February .....	95 "	30	94
March .....	89 "	25	86
April .....	91 "	25	87
May .....	66 "	25	87
June .....	23 "	29	91
July .....	13 dec.	31	93
August .....	30 inc.	30	96
September .....	83 "	29	95
October .....	147 "	27	91
November .....	225 "	30	94
December .....	272 "	32	96
1927			
January .....	161 inc.	32	96
February .....	70 "	37	102
March .....	80 "	39	99
April .....	107 "	42	100
May .....	80 "	48	106
June .....	82 "	45	104
July .....	83 "	47	108
August .....	24 "	53	109
September .....	16 "	71	111
October .....	87 dec.	62	104
November .....	111 "	60	113
December .....	170 "	62	116
1928			
January .....	99 dec.	57	116
February .....	37 "	54	112
March .....	47 inc.	56	123
April .....	58 "	62	136
May .....	118 "	64	140
June .....	-	58	126
July .....	-	58	127



## CHAPTER XI

### Automobiles, Tires and Accessories

**T**HE automobile business is a star example of the creative genius, rapid growth and kaleidoscopic character of twentieth century industry in the United States. Born only a little more than a generation ago it has now expanded into a huge key industry which, directly and indirectly, creates in this country annually about eight billion dollars worth of new wealth and gives employment to nearly three million people. The statistical story of this marvelous development is told in Tables I and II.

Several features brought out in the two Tables seem worthy of comment. The conspicuous increase in productivity of labor, disclosed in Table I, is largely due to a high degree of mechanization of the industry as reflected in the rapid increase in primary horsepower per wage earner; but some of the gain is due merely to simplification of parts and the disproportionate increase in sales of lower priced cars. In this connection it may be noted that the relatively high output of Ford cars per worker is not wholly due to superior efficiency of his plant; but partly arises from the lesser amount of material in the Ford car as compared with higher priced makes.

It has been said that the number of cars per capita may be taken as a rough index of a nation's productivity and wealth; if so, Table III offers food for thought.

# New Technique of Uncovering Security Bargains

TABLE I  
*Secular Progress of the U. S. Automotive Industry*

	1899	1904	1909	1914	1919	1921	1923	1925	1927
<b>CARS AND TRUCKS</b>									
Primary horsepower (1,000).....	3	8	50	105	282	..	436	510	..
Per wage earner .....	..	..	1.0	1.3	1.3	..	1.8	2.6	..
Wage earners (1,000).....	2	10	51	79	211	144	241	198	..
Average wage (\$)	590	603	666	844	1484	1545	1685	1727	..
Vehicles produced per wage earner.....	..	2.2	2.6	7.2	9.2	16.7	16.7	21.5	..
Canadian production (1,000).....	..	..	..	..	40	63	146	161	179
Foreign assemblies (except Canada).....	..	..	..	..	..	..	103	184	204
Automobile fatalities—per 100,000 population	..	..	..	4.3	9.4	11.5	14.9	17.0	..
per 1,000 vehicles.....	..	..	..	2.5	1.3	1.2	1.1	1.0	..
<b>PASSENGER CARS</b>									
Produced (1,000).....	2	22	128	544	1658	1453	3632	3760	2939
Per cent. closed .....	..	..	..	..	9.7	22.1	34.0	57.6	81.8
Average wholesale value (\$)	..	1055	1250	762	881	722	616	638	735
Per cent. under \$1,000.....	..	..	..	63.0	58.9	69.0	81.6	69.1	64.5
Average retail value, factory (wholesale plus 1/3) .....	..	1407	1667	1016	1175	963	821	877	980
Exported (1,000) .....	..	1	3	22	67	31	127	244	287
Inhabitants per car .....	22000	1500	291	57	14.7	11.4	8.3	6.6	5.9
<b>TRUCKS AND BUSES</b>									
Produced (1,000) .....	..	0.4	3	25	276	144	389	506	455
Capacity—Per cent. 1/4 ton and under.....	..	..	..	..	..	22.1	10.8	9.0	16.0
Per cent. 1 ton.....	..	..	..	..	..	56.8	72.7	75.1	65.7
Per cent. 1 1/2 tons and over..	..	..	..	..	..	21.1	16.5	15.9	18.3
Average wholesale value (\$)	..	2304	1608	1779	1339	1128	794	916	875
Average retail value (wholesale plus 1/3)...	..	3072	2144	2372	1785	1504	1059	1221	1167
Exported (1,000) .....	..	..	..	3	16	7	25	59	107
<b>MOTOR CYCLES</b>									
Produced (1,000) .....	..	..	..	62	59	27	42	39	46
Exported .....	..	..	..	7	24	11	22	23	19



# Automobiles, Tires and Accessories

TABLE II

*Motor Vehicle Balance Sheet (Partly Estimated)*

(Thousands)							
Passenger Cars and Trucks, U. S.							
Year	Production	Per Cent. Ford	Per Cent. General Motors	Exports	Registration	Withdrawn From Use	U. S. Motor Cycle Regis.
1899 ...	2	..	..	..	3	..	..
1900 ...	5	..	..	0.2	8	..	..
1901 ...	7	..	..	0.3	15	..	..
1902 ...	9	..	..	0.5	23	..	..
1903 ...	11	..	..	0.6	33	..	..
1904 ...	23	..	..	1	55	..	..
1905 ...	25	..	..	1	78	1	..
1906 ...	34	..	..	2	107	3	..
1907 ...	44	..	..	3	142	6	..
1908 ...	65	..	..	2	198	7	..
1909 ...	131	11	..	3	312	13	..
1910 ...	187	10	..	7	468	24	..
1911 ...	210	18	..	12	640	27	..
1912 ...	378	21	..	22	944	52	..
1913 ...	485	38	..	27	1,258	144	..
1914 ...	569	46	..	26	1,711	90	..
1915 ...	970	37	..	64	2,446	172	199
1916 ...	1,618	36	..	81	3,513	470	251
1917 ...	1,874	43	..	80	4,983	323	258
1918 ...	1,171	34	..	47	6,147	40-x	241
1919 ...	1,934	40	..	83	7,565	432	241
1920 ...	2,227	46	18	172	9,232	389	239
1921 ...	1,597	58	13	38	10,463	327	196
1922 ...	2,544	48	18	78	12,238	691	183
1923 ...	4,020	49	20	152	15,092	1,015	171
1924 ...	3,601	50	16	179	17,594	921	154
1925 ...	4,266	42	20	303	19,937	1,619	140
1926 ...	4,299	34	29	306	22,001	1,929	132
1927 ...	3,934	11	40	394	23,127	1,874	120

x—Net number brought back into use.

TABLE III

*Motor Vehicle Population of the World on January 1, 1927*

	World Total	Continental United States		Other Countries
		No.	%	
Passenger cars .....	23,518,928	19,293,112	82.0	4,225,816
Motor trucks .....	3,936,965	2,764,222	70.2	1,172,743
Buses .....	194,374	80,000	41.2	114,374
TOTAL .....	27,650,267	22,137,334	80.0	5,512,933
Inhabitants per vehicle	66	5		311
Motorcycles .....	1,726,241	134,679	7.8	1,591,562

## New Technique of Uncovering Security Bargains

Since practically all Canadian production is by subsidiaries of American companies, the relative importance of our foreign automotive trade can be appreciated only by adding Canadian production and other foreign assemblies to exports. This would credit us with a total export trade of 777,000 cars in 1927, which was 24% of domestic sales.

Part of the drop in average selling price per car since 1909 is obviously due to a proportionately increasing admixture of Ford cars, and probably all of the rise in average price since 1923 has been due to the slump in Ford production.

In Table II, figures in the "Withdrawn from use" column are computed by subtracting the gain in registration from the year's production less exports. This gives what is known as apparent replacement sales. The Table shows that replacement demands now take about 50% of domestic production. The industry is now getting rapidly onto a repeat order basis—the salesman's idea of Paradise. The column shows, however, that many people manage to make the old car do in years of business depression such as 1914, 1918, 1921, 1924 and 1927. In 1918, indeed, patriotic motives led people to bring back into service 40,000 more cars than they discarded.

The increase in automobile fatalities per capita since 1914, though disquieting, is far less than might have been expected in view of the phenomenal growth in registrations. Expressed in terms of fatalities per 1,000 vehicles registered, the figure has dropped from 2.5 in 1914 to 1.0 in 1925, despite the increase in population and in the average speed at which cars are operated. Thus expressed, the figures bear eloquent testimony to the growing efficiency of our traffic regulations and the high degree of caution displayed by the average American driver.

### A Speculative Industry

The material in Tables I and II gives little conception of the great business hazards assumed by individual manufacturers of motor vehicles. Unless shielded from competition by some form of monopolistic advantage, any rapidly growing industry is sure to lure into the field a great number of inadequately financed and poorly managed concerns; so that the proportion of commercial casualties in such industries is always high, especially during the years of most rapid expansion, before the period of consolidation among the more sturdy survivors sets in to bring about greater stability through mass production and diversification of output.

The automobile industry has had its full share of commercial casualties, and the survivors even now are subjected to all the ups and downs of seasonal fluctuations in demand, changes in style, and variations in public purchasing power caused by the business cycle. No record of the number of automobile companies that have come and gone has ever been published; but we do know, from a compilation made by the Magazine, *Motor*, that, of 565 models put out between the years 1895 and 1924, inclusive, only 44 are at this writing (Aug. 1928) being manufactured. The pronounced changes in demand caused by ups and downs of the business cycle are brought out in Table IV. Ford production has been listed separately in order to show more clearly the ups and downs of production among companies whose stock is available to the public.

While the highly fluctuating character of the industry makes the business an exciting adventure to those who are engaged in the manufacture and sale of motor vehicles, this very characteristic renders automobile stocks attractive to the shorter pull spec-investor who takes the pains to analyze each individual situation

# New Technique of Uncovering Security Bargains

TABLE IV

*United States Production of Passenger Cars and Trucks*

(Thousands)

Year	Total	Ford	All Other
1909 .....	131	15	116
1910 .....	187	19	168
1911 .....	210	38	172
1912 .....	378	80	298
1913 .....	485	183	302
1914 .....	569	261	308
1915 .....	970	355	605
1916 .....	1,618	577	1,041
1917 .....	1,874	801	1,073
1918 .....	1,171	403	768
1919 .....	1,974	778	1,196
1920 .....	2,227	1,027	1,200
1921 .....	1,597	929	668
1922 .....	2,544	1,232	1,312
1923 .....	4,020	1,958	2,062
1924 .....	3,601	1,790	1,811
1925 .....	4,266	1,798	2,468
1926 .....	4,299	1,448	2,851
1927 .....	3,394	433	2,961

thoroughly before making a commitment. It requires a steady nerve, and a plastic and alert mind, however, to deal in such highly speculative stocks. They are not suitable for the moss-back type of investor or a person with a weak heart.

## General Motors

Since the War, General Motors has been the leading company among automobile concerns whose stock is available to the public. Its annual reports contain a wealth of information for the analyst; while its quarterly reports of earnings, and monthly reports of cars sold, serve as valuable guides to the trader and spec-investor.

Table V presents the high lights of the company's progress since the War. It is submitted here as a typical example of how the spec-investor should proceed in his analyses of annual reports.

# Automobiles, Tires and Accessories

TABLE V  
Eight Years' Progress of General Motors Corporation

	1920	1921	1922	1923	1924	1925	1926	1927
<b>BALANCE SHEET (\$1,000,000)</b>								
Total Assets—less goodwill, etc.	588	492	500	571	570	681	877	1055
Investment in companies not consolidated	68	53	57	61	62	86	80	98
Property value, at cost	249	249	255	277	289	287	434	480
Depreciation reserve	33	38	51	63	77	92	124	142
Net working capital	141	97	126	141	161	182	192	273
Per cent of net sales	25	32	27	27	28	25	18	22
Inventories	163	109	117	139	97	112	156	173
Cash and marketable securities	48	40	28	47	88	145	185	208
Purchase money notes and mortgages	11	5	2	1	0	0	0	0
Debiture and Preferred Stock	104	104	109	110	110	110	110	135
Common Stock	206	206	206	206	258	258	435	435
Notes Payable	72	49	0	10	0	0	0	0
Surplus	121	56	90	121	82	119	89	188
<b>INCOME STATEMENT (\$1,000,000)</b>								
Net sales	587	304	464	698	568	735	1058	1270
Per cent of total assets, less goodwill, etc.	96	62	93	122	100	108	121	120
Payroll	...	66	95	138	110	137	221	303
Per cent of net sales	...	21.7	20.5	19.8	19.4	18.6	20.9	23.9
Per car (\$)	...	307	139	164	169	148	163	194
Per employee (\$)	...	1438	1455	1515	1511	1642	1705	1723
Depreciation	10.4	6.8	13.6	15.1	16.1	17.2	20.3	26.9
Per cent of property cost	4.2	2.7	5.3	5.4	5.6	6.0	4.7	5.6
Interest on notes and accounts payable	5.6	5.3	1.4	0.4	0.3	0.1	0.3	0
Net profit, applicable to dividends	38	39-d	51	62	48	106	176	238
Per cent of total assets, less goodwill, etc.	6.5	7.9-d	10.4	10.8	8.1	15.7	20.2	22.6
Per cent of net sales	6.7	12.8-d	11.2	8.9	8.1	14.6	16.7	18.8
Per car sold	96	180-d	113	78	79	127	143	153
Cash dividends declared—Deb. and Pfd. Stock	5.6	6.3	6.4	6.9	7.3	7.6	7.6	9.0
Common Stock	17.9	20.5	10.2	24.8	25.0	62	104	135
<b>STATISTICAL DATA</b>								
Employees (1,000)	81	46	65	91	73	83	130	176
Cars sold to dealers (1,000)	393	215	457	799	587	836	1235	1563
Per employee	4.8	4.7	7.0	8.8	8.0	10.0	9.5	8.9
Passenger	344	204	443	775	562	787	1132	1348
Commercial	49	11	14	24	25	49	113	214
Average wholesale value (\$)	1442	1415	1015	874	968	879	837	813
Exports and Foreign assemblies (included in above)	...	...	23	45	65	101	119	194

d—Deficit.

## New Technique of Uncovering Security Bargains

Consolidation of Fisher Body on June 30, 1926, accounts for a number of marked changes in financial and statistical items for 1926 and 1927 compared with previous years. Among the less obvious of these are the increase in payrolls per car and in cents per dollar of net sales, along with the seeming drop in labor efficiency as reflected in the lessened output of cars per employee: and also the sudden jump in profits. So long as automobile bodies were purchased from outsiders, the labor and profits on such bodies entered into General Motors' income statement as part of the cost of parts and accessories; but after the consolidation, Fisher Body payrolls and profits were included as such in the consolidated report. If all the world's business could be consolidated in one huge income statement, the item, "Cost of material", would cancel out, and the only remaining items of expense would be payroll, reserves, interest and taxes. At the opposite extreme are companies which do little more than assemble parts purchased from other manufacturers. Here material costs are high, and payrolls relatively low. Table V shows quite clearly that the acquisition of Fisher Body by General Motors was a master stroke. Comparison with data presented in Table II, however, arouses a faint suspicion that some of the company's sudden increase in sales and profits during the past two years may have been due to the sharp drop in Ford production: but one can not be sure of this until, and if, the Ford output comes back to normal. General Motors' average profit of \$150 per car does seem rather high in comparison with other makes, despite the admitted ability of the company's sales and public relations departments. Can this relatively high rate of profit be maintained under conditions less favorable than those obtaining during the past two years?

Table VI shows those results of General Motors'



# Automobiles, Tires and Accessories

TABLE VI

*Per-Share History of General Motors' Common Stock, From the Spec-Investor's Viewpoint*

Year	Earned	Cash Dividends		Market Price	
		Regular	Extra	High	Low
1918 .....	1.71	1.49		20	13
1919 .....	4.17	1.49		51	15
1920 .....	2.07	1.33		56	17
1921 .....	def.	1.33		22	12
1922 .....	3.12	0	0.67	20	11
1923 .....	4.20	1.60		23	15
1924 .....	2.86	1.62		22	15
1925 .....	7.00	2.00	0.33	50	21
1926 .....	10.26	2.92	3.00	75	38
1927 .....	12.99	4.25	3.00	141	73
1928 (6 Mos.) .....	9.00	2.50	2.50	210	130

operations for the past ten years which are of most direct interest to the spec-investor. Earnings, dividends and market price have been reduced to a per-share basis, according to present capitalization, by compensating for past exchanges, split-ups and stock dividends. In other words, per share data have been computed as though the present number of common shares had always been outstanding, except for common stock sold for cash, issued as bonuses to employees, or exchanged for the securities of other companies. This method of compensating for changes in capitalization is the only way of conveying a true picture of the secular growth in benefits to investors. Data based upon actual number of common shares outstanding from time to time are practically worthless.

Here again the company's progress since 1925 stands out conspicuously. Time will tell if it can last. The high ratio of extra to regular dividends in 1926 and 1927 looks as though the management itself entertains some doubts.

## Market Indicators

There are so many sudden shifts in the proportionate amount of total business secured by individual motor

## New Technique of Uncovering Security Bargains

companies. from time to time, and in profits per unit sold, that there is seldom anything approaching a uniform group movement among automobile stocks. Sub-groups within the industry do frequently move as units, however. There are times, for example, when practically all automobile stocks whose sales and earnings are increasing will rise together; then there will be days when all the poor earners will have a sinking spell. There is thus no satisfactory industrial barometer for automobile stocks as a group: each issue has to be considered on its individual merits. The most vital single factor in an automobile company's prosperity is management. We find this amply demonstrated in such familiar examples of good management as General Motors, Packard, Chrysler and Hupp. There is no need of citing companies that have been less capably managed: the stock market points them out.

### Bargain Hunting

The majority of automobile companies which have stock listed on the New York Stock Exchange report earnings quarterly, and give out monthly statements of the number of cars sold, produced or shipped. A simple analysis of such data as it comes to hand enables the spec-investor to determine which of the automobile stocks are most likely to have the largest increase in price within a few months' time. The method is outlined in Table VII for five prominent motor stocks.

This method of analysis leaves no doubt that, of the five stocks, Hupp was the best purchase around the first of the year. Increases of 98% in profits per car, 84% in number of cars sold, with resulting increase of 265% in earnings per share could not but cause a

## Automobiles, Tires and Accessories

TABLE VII

### *Motor Stock Bargain Finder*

Stock	First Six Months of 1928				Market Price		
	Per Cent Increase Compared			Per-Share	1927	High to	% Rise
	Profit	Cars	Per Share				
	Per Car (\$)	Sold	Earnings	Close	Aug. 9, 1928		
Chrysler .....	109	16	0	16	63	89	41
General Motors ..	149	2	23	25	138	210	52
Hudson .....	51	9-d	5	6-d	84	100	20
Hupp .....	107	98	84	265	34	65	91
Studebaker .....	109	6-d	9	2	61	82	36

d—Decrease.

sharp upturn in the stock. *Always purchase the stock whose earnings are increasing most rapidly, at a time when indications point to a rise in the general market.* If sales and profits per unit are *both* increasing at a rapid rate, the stock's market prospects are about 100% perfect.

### Tire and Accessory Stocks

Lack of space prevents us from including in this Chapter a statistical review of the Tire and Accessories industries. Market movements of individual issues within both these groups are more nearly in unison than is the case with Automobile stocks. Within the Tire group especially, there is a marked tendency for all tire and rubber stocks to move at one time in the same direction; though the amplitudes of individual price movements differ widely, of course, according to the various prospects for each issue. As a consequence it is possible to find fairly satisfactory industrial barometers for each of the two groups.

The price of crude rubber, platted to logarithmic ordinates generally anticipates by a few months all important movements in the Tire "Group Ratio" (de-

## New Technique of Uncovering Security Bargains

scribed in previous chapters). The reason for using the logarithmic scale in this instance is that inventory profits and losses vary directly with the percentage change in the price of crude—not with the price change expressed in cents. During periods when the price of crude remains about stationary, comparative changes in the production of tires take on barometric significance. The spec-investment rule is therefore as follows: *Tire stocks are a purchase when the price of crude is rising, or when the price of crude is about stationary and tire output is increasing, provided conditions point to a rise in the general market.*

A fairly satisfactory barometer for the Automobile Accessories group is a curve showing the changes in automobile production compared with the corresponding month of the year before. Turning points in this comparison curve precede by a few months most of the important turning points in the Accessories Group Ratio. Hence the following spec-investment rule for Motor Accessories: *Automobile Accessory stocks are a purchase several months after the comparative curve of Automobile production turns upward, provided indications point to a rise in the general market.*

Of course here, as with all other industrial groups, no barometer ever points to the desirability of purchasing all the stocks within a group. A barometer merely shows when conditions within an industry are favorable, or about to turn for the better; but which stocks will benefit most from improving prospects is a matter that must be determined by individual analysis.

## CHAPTER XII

### Merchandising Stocks

THE outstanding development in the Merchandising industry of recent years has been the rapid spread of the chain store idea. Mass distribution makes it possible to buy more economically, facilitates financing on more advantageous terms, and reduces the unit cost of advertising and management. But it is probably the "Cash and carry" policy which, more than any other factor, has made it possible for the chain to undersell isolated stores.

A leading grocery chain estimates that the average customer saves 17% during the year on food alone by purchasing at its stores; yet its profit per dollar of sales is undoubtedly larger than the average independent store in the same line. It has been said in this connection that 90% of retail merchants who set up business for themselves eventually go into bankruptcy. Commercial casualties among chain store organizations have thus far been negligible.

It is well for the investor to note, however, that competition of one chain with another is already beginning to result in a slight decrease in average profits per dollar of sales. For other reasons, which will be mentioned shortly, an even larger decrease is evident in the profits per dollar of invested capital. So long as there was only one chain competing with independent neighborhood stores the former, with its lower priced merchandise, occupied an impregnable position. But now that chain stores do 17% of the country's retail business, and

## New Technique of Uncovering Security Bargains

chain grocery stores even take in 33 cents out of every dollar spent for food, the possibilities of inter-chain competition are well worth watching.

It is the old economic story of the newcomer in a field who reaps handsome profits until imitators crowd in to challenge his monopoly. The outcome will be as always. Capably managed organizations will grow larger and more prosperous; less capably managed companies will come and go—go through failure or absorption.

Owing to the cash and carry feature, development of the chains has been largely confined to neighborhood stores dealing in relatively inexpensive merchandise of little bulk; which the customer can take home without too great effort, and which can not be sold to great advantage on a deferred payment plan.

TABLE I  
*Estimated Census of Chain Stores, 1927*

Field	No. of Chains	No. of Units
1 Groceries .....	860	64,000
2 Variety (5c to \$1) .....	786	8,100
3 Shoes .....	596	6,462
4 Drugs .....	415	3,475
1 Tobacco .....	30	2,850
5 Department Stores .....	189	2,489
7 Women's clothing .....	215	2,036
1 Restaurants and tea-rooms.....	166	2,009
2 Hotels .....	400	1,500
1 Candy .....	33	731
1 Meat .....	52	598
3 Millinery .....	46	596
3 Clothing .....	29	531
1 Bakeries .....	12	523
2 Hardware and sporting goods .....	52	511
3 Men's Hats .....	24	465
4 Music and radio .....	46	435
4 Stationery and books .....	17	356
2 Furniture .....	18	179
<b>TOTALS</b> .....	<b>3,986</b>	<b>97,846</b>

The extent to which chain store expansion has followed this line of least resistance is shown strikingly by data presented in Table I which gives a classified list of



## Merchandising Stocks

chains and units operated in 1927. The estimates were compiled by William J. Baxter of the Chain Store Research Bureau, author of "Chain Store Distribution and Management."

Chain grocery stores sold over \$8,000,000,000 worth of merchandise in 1927: chain drug stores did a gross business of more than \$200,000,000. Figures for annual sales in other fields are not available; but, if sales per store in all lines averaged the same as in the grocery field, aggregate chain store sales would have exceeded twelve billions.

With sales running into the tens and hundreds of millions it is quite to be expected that the larger chains should turn to manufacturing some of their merchandise. Hotels, bakeries, restaurants, candy and clothing stores and many shoe and head gear chains are indeed nothing more than manufacturers' outlets. Despite the traditional reluctance of merchants to mix manufacturing with sales activities, many of the larger grocery, meat, tea, drug and furniture chains now produce a greater or less proportion of the goods they sell. The tendency here, as in other lines of business activity on a large scale, is toward the vertical trust type of organization. "From our pastures to you" is already a slogan of the dairy products chains. The effects of this trend upon the profits of manufacturers who have hitherto found their outlet through the independent retailer should be watched by the investor.

There are still many companies whose stocks are available to the public, however, which confine their attention largely to merchandising. This chapter will be limited to the common stocks of companies listed on the New York Stock Exchange, whose activities are chiefly retail—not wholesale—merchandising, and which do not manufacture or produce any considerable quantity of the merchandise they sell.

## New Technique of Uncovering Security Bargains

### Real Estate Complications

There is a saying to the effect that it is the business of the merchant to sell merchandise. This is one of the old business rules which it is becoming increasingly difficult to follow. We refer here not to the urge to manufacture, which is a most ancient collateral line of activity, but to the growing tendency among merchandising corporations to embark upon adventures in real estate. A retail store's volume of business is greatly dependent upon not only the location but its permanence. Shrewd merchants seek to settle in rapidly growing sections and it is in just such localities that they find the greatest difficulties in obtaining satisfactory long term leases. If leases run for only a few years, renewal rentals are likely to be all but prohibitively high. To move means scrapping of expensive fixtures and alterations, not to mention moving expenses and loss of trade. On the other hand, if a neighborhood deteriorates it is not always easy to dispose of a long term lease. If it builds up rapidly, not only leases but the building occupied by the store appreciate greatly in value. It is considerations such as these that have always forced upon the attention of store executives the practical necessity of controlling, through ownership or long term lease, the premises in which their business is conducted. So long as a concern occupies an entire building, as is the case with most of our large department stores, the real estate problem is no different from that which merchants have always had to solve; but the modern chain which operates a number of small stores, frequently considers it desirable to purchase or lease a large building in order to enjoy undisturbed possession of a relatively small amount of floor space. The next logical step is to acquire advantageous sites in advance of the time when they may be occupied by company stores.

## Merchandising Stocks

Should occupancy be postponed for several years, opportunities may arise to turn such unused property or leases over at a handsome profit. With a full blown organization staffed to purchase, manage and sell real estate there is obviously a strong temptation to engage in real estate operations that may be only remotely connected with the merchandising end of the business.

Some of our larger chain store organizations have thus come to deal in real estate as well as merchandise, and it sometimes happens that the results of real estate operations actually overshadow the profits or losses arising from merchandising sales. This is all quite perplexing to the investor who undertakes to gain a clear conception of the situation and outlook through analysis of a company's published reports; for there is not one of these, so far as we know, that properly segregates its merchandising from its real estate activities and gives out to the public an intelligible report of the latter. Most of the outside real estate operations are carried on by subsidiaries whose stock is lumped in the balance sheet under the item, "Investments". Rentals received, together with profits and losses from sale of properties and leases, are scrambled in the income statement under the caption, "Other income". Mortgage liabilities are deducted from property account, and only the net amount after depreciation reserves appears on the balance sheet. Rentals and mortgage interest paid are usually lumped in with operating expenses, taxes and cost of merchandise. Leaseholds are marked up to current value on the balance sheet, and then depreciated annually by an unspecified amount lumped on the income statement under "Operating expenses". This is even less defensible than the now discredited practise of marking up old plant and equipment to current reproduction cost; especially when it seems likely that a store will occupy present premises for the duration

## New Technique of Uncovering Security Bargains

of its lease. The practical effect of marking up leasehold values and then depreciating these annually is, of course, to pad surplus and understate current profits. In Table II we have undertaken to segregate the merchandising activities, so far as published annual reports permit, in order to facilitate comparison of one company with another; but there are so many variations in accounting practise that the figures are not exactly comparable. In a few instances they may be positively misleading.

### Typical Merchandising Income Statement

Competition permitting, the average merchandising company aims to mark up purchased merchandise 50% to fix selling prices. Under ordinary conditions this should leave, after taxes, a net profit, applicable to interest and dividends, of about ten cents on the dollar. A typical merchandising income statement would therefore appear about as follows:

Net sales .....	\$1,000,000
Cost of sales .....	666,667
Gross profit .....	333,333
Operating expenses and taxes (70%).....	233,333
Operating profits .....	100,000
Other income .....	10,000
Net profits .....	110,000
Fixed charges (interest, etc.).....	10,000
Net income .....	100,000
Preferred dividends .....	25,000
Earned for 25,000 Shares of Common.....	75,000
Per share .....	\$3.00

The make-up of this income statement is, in principle, like that of any manufacturing or other company. It shows clearly that the amount earned for common stock will vary greatly according to the size of Oper-

## Merchandising Stocks

ating profits, Other income, and deductions for Fixed charges and Preferred dividends. In this instance, Other income about meets Fixed charges, which is as it should be; for Other income usually arises from capital employed otherwise than in the regular line of business. Should our hypothetical company decide to retire all bonded indebtedness, 40 cents a share would be added to the amount earned for common stock. Redemption of preferred stock would add \$1.00 to per-share common earnings. Here is a combined increase of nearly 50% in earnings for the common stock, brought about merely by alterations in the capital structure, without any change whatever in profits. An actual example of this principle is presented in Table II, where it will be observed that the five-year increase in the amount earned for its common stock by Sears, Roebuck was considerably greater than the increase by Montgomery Ward, despite the fact that operating profits earned by the latter grew faster than those earned by the former. Explanation is to be sought in the fact that, during the five-year interval, Sears, Roebuck retired all of its bonds and preferred stock, whereas Montgomery Ward added to its preferred dividend disbursements.

## Market Indicators

The prosperity of Merchandising companies, as a group, is closely associated with the country's general prosperity. When labor is well employed and business men and corporations are making money, everyone spends freely. At times when many are out of work and profits are poor the stores naturally complain that sales are slow. Hence data such as employment indexes, crop production and prices, automobile and steel ingot production, building contracts, debits to individual



## New Technique of Uncovering Security Bargains

account, new orders in various lines—platted as difference curves, comparing this year with the corresponding month last year—serve as fair barometers of merchandising sales and profits. It should be noted, however, that prosperity in our huge country is frequently distributed unevenly. Large corn and wheat crops at high prices may stimulate business in the West and Northwest, while the South suffers from a collapse in cotton prices or from real estate deflation. A strike may hit business in the coal region. A slump in automobile production may hurt mercantile business in Detroit. Each of the several merchandising fields, too, has its own separate barometer. Mail Order houses earn most when the farmer is making money; Tobacco stores prosper when the consumption of cigarettes and cigars are large, prices of leaf tobacco low, and good prices are received for the finished product; building contracts point to coming changes in the volume of furniture sales, etc. Stores in all fields do their heaviest business in December; *so that, if a section is generally prosperous around the holiday season, the market will usually stage a bullish demonstration in merchandising stocks of that territory sometime in November. Department store sales are considerably affected by seasonableness of the weather. An early summer or winter is thus likely to cause a rise in Department store stocks. Late or mild summers and winters usually exert a bearish influence.*

As will be observed from Table IV, merchandising companies differ widely in the frequency of reports issued to the public. Only one of the seventeen Department stores listed gives out quarterly earnings reports; five publish these twice a year; the rest annually. Drugs, Tobacco, Furniture, Mail Order and Variety stores give out monthly statements of sales, and these serve as good barometers for individual stocks in those



## Merchandising Stocks

fields. Some of these companies also publish quarterly or semi-annual earnings statements which are useful as check-ups on the monthly sales reports; for the otherwise bullish influence of an increasing volume of sales may be counteracted by a lower rate of unit profit.

### Individual Stocks

*The best Merchandising stocks to buy are those which are low in price on a times-earnings basis and whose sales or earnings are increasing rapidly. The best times to buy these are when people begin to comment upon the early and severe summer or winter; around the time when periodic sales and/or earnings reports are published; or in November, if holiday trade looks promising—always provided, of course, that conditions point to a rise in the general market.*

Three methods of analyzing the merchandising stocks in one's quest for bargains are presented in Tables II, III and IV. Table II analyses the policies of management and their results. Table III shows how market prices have responded to secular growth in earnings per share. Table IV gives data for the Out-of-line method, and indicates the dates, frequency and character of published reports.

### Management Policies

In Table II, the items, "Operating assets", are computed by subtracting from total assets the values of goodwill, leaseholds and investments. "Operating assets" is intended to show the amount of capital invested in the purely merchandising phase of the business. Similarly, "Operating profit" is intended to show the amount earned for interest and dividends from merchandising activities alone. When preparing an analy-

# New Technique of Uncovering Security Bargains

TABLE II

*Five Years' Progress of Ten Leading Merchandising Companies—1927 Compared with 1922—(\$1,000,000)*

Class	Company	Dept. Stores		Drugs-Tobac.		Furniture		Mail Order			Variety Stores		
		Asso. Goods	May Dept. Stores	United (a) Cigar Stores	(a) United Drug	Hartman Corp.	Montgomery Ward	National Bellas Hess	Sears, Roebuck	S. S. Kresge	F. W. Woolworth		
Operating assets	.....	26.8	50.9	65.3	64.8	19.24	71.3	16.69	149.9	86.7	118.9		
Five-year increase—Per cent..		9	52	94	47	21	71	38	41	192	84		
Real Estate, Fur., Fix., etc..		4.0	14.6	30.4	32.7	0.9	16.2	7.1	56.6	54.9	43.5		
Five-year increase—Per cent..		30d	81	215	77	29d	5	75	110	320	92		
Investments and advances	.....	14.4	0.8	12.1	26.8	1.2	2.9	0	14.8	0	18.8		
Five-year increase—Per cent..		66	1d	71d	142	147d	19	0	10d	0	483		
Misc. inventories	.....	7.9	18.6	13.0	19.8	3.7	32.2	5.4	49.6	15.5	30.6		
Five-year increase—Per cent..		2d	64	15	46	46	78	13d	43	86	44		
Inventory turnover (times per an.)		N.F.	5.52	6.54	4.31	4.3	5.62	8.35	5.59	8.66	8.90		
Five-year increase—Per cent..		N.F.	10d	1	7	35d	24	13	16	10	13		
Cash and marketable securities...		6.1	5.9	14.3	5.4	1.1	12.9	3.7	28.2	12.5	20.4		
Five-year increase—Per cent..		50	38d	73	96	94	206	72	164	87	113		
Receivables	.....	7.4	11.2	5.4	5.7	12.8	9.0	0.2	11.7	0.3	2.1		
Five-year increase—Per cent..		21	97	156	20d	13	165	106	220	67d	220		
Payables	.....	3.0	7.9	5.3	4.9	4.2	8.3	1.8	16.3	4.1	0.4		
Five-year increase—Per cent..		8	163	11	49	37	15	48d	13	N.F.	23d		
Bonds, mtgs. and subs. securities	.....	0	0	0	14.2	0	0	2.2	0	12.6	3.5		
Five-year increase—Per cent..		100d	100d	100d	11d	0	0	51d	100d	468	26		
Preferred stock	.....	20.5	0	19.8	32.6	(b)	(c)	6.2	0	3.0	0		
Five-year increase—Per cent..		0	100d	338	98	(b)	(c)	48	100d	0	100d		
Accumulated surplus	.....	15.1	26.9	19.7	13.8	3.5	35.7	5.6	55.4	29.0	33.2		
Five-year increase—Per cent..		99	361	202	373	30d	745	86	737	194	211		
Net sales	.....	N.F.	102.8	84.8	95.4	17.5	186.7	44.7	277.5	183.8	272.8		
Five-year increase—Per cent..		N.F.	66	17	56	5d	120	2d	67	105	63		
Operating profit	.....	1.8	6.1	7.8	6.5	1.2	13.1	0.3	25.0	14.6	24.6		
Five-year increase—Per cent..		19d	24	65	46	29d	319	88d	278	116	N.F.		
Oper. profit, per ct. of oper. assets	.....	6.86	11.94	11.9	10.0	6.17	18.28	1.53	16.09	16.8	20.7		
Five-year increase—Per cent..		26d	18d	17d	1d	41d	144	92d	183	29d	N.F.		
Operat. profit, per ct. of net sales	.....	N.F.	6.93	9.18	6.78	6.76	7.03	0.57	9.02	10.9	9.0		
Five-year increase—Per cent..		N.F.	25d	41	6d	28d	90	88d	127	5	N.F.		
Earned for Common Stock	.....	2.0	6.4	6.9	4.5	0.9	11.7	def.	25.0	13.8	31.3		
Five-year increase—Per cent..		18d	26	71	121	41d	319	102d	412	114	78		

a—Now "Drug, Inc." b—57,113 shares Class "A" in 1927; none in 1922.  
c—205,000 shares Class "A" in 1927; 205,000 shares Class "A" plus \$4,250,000 Pfd. in 1922.  
d—Decrease or deficit. e—Fiscal years ended January 31, 1928 and 1923.

## Merchandising Stocks

sis of this character, or one such as shown in Table III, comparison of secular progress should be between peak years, separated by several years—otherwise the figures will convey a false picture of the longer range progress.

It is important to note that secular growth in net sales is closely related in each instance to the corresponding increase in inventories; but only remotely dependent, if at all, upon the growth in fixed property and investments. In most instances the growth in fixed property has been very much more rapid than the increase in inventories; and the logical outcome in each instance, except Sears, Roebuck, has been a falling off in the rate of operating profits earned on capital invested in the merchandising end of the business. The Table indeed gives one the uncomfortable impression that the majority of chain store executives have of recent years been devoting more attention to real estate than to selling merchandise. United Cigar Stores offers an exceptionally striking example of this tendency. During the past five years, real estate, furniture and fixtures have increased 215%, investments have multiplied eight-fold, whereas merchandise stocks have grown only 15%. As might have been expected, net sales have shown a five year growth of only 17%; but, due evidently to an increase in mark-up, this has been converted into a 65% increase in operating profits. There is a limit to the possibilities of marking up merchandise prices; so that, unless reported profits from real estate operations are rather handsome, a price of 23 times earnings seems pretty high for the common stock. Space permitting, a whole chapter might be devoted to a discussion of the enlightening information to be derived from data in Table II; but we must leave it here with the comment that, if the rate of increase in operating profits is a fair yardstick by which to measure managerial

## New Technique of Uncovering Security Bargains

ability, then Montgomery Ward and Sears, Roebuck are by far the most attractive spec-investments among the ten stocks analysed. And by this we mean that these are the two stocks to watch always for a favorable time to buy.

### Market Progress

*The best spec-investment guide we know of is that stocks which make the most rapid progress market-wise are those whose per-share earnings increase most rapidly, and which start from a times-earnings price which is considerably lower than the average for other stocks in the same sub-group.* The low average price of 8.92 times earnings, in 1922, seems strange now to spec-investors who have grown accustomed to 16.40 times earnings. Interest rates were high in 1922, and the market was timidly recovering from its panic stricken levels of the year before. At the close of 1927, money was easy and the bears had long since gone into hibernation.

Secular comparisons of changes in per-share earnings and market prices should always be compensated for stock dividends, rights and exchanges, as in Table III. When allowing for intervening increases in the number of common shares outstanding, however, consideration should be given only to shares issued to common stockholders. Take the case of United Cigar Stores, for example: Through the exercise of rights, and by retaining all stock received in split-ups, exchanges and stock dividends, the owner of one share at the end of 1922 would hold about 15 shares at the close of 1927. There were in all, however, about 15.4 times as many shares actually outstanding at the end of 1927 as at the close of 1922; owing to the fact that rights were also offered to preferred stockholders. The

# Merchandising Stocks

TABLE III  
Five Years' Spec-Investment Profits on Ten Leading Merchandising Stocks  
(Compensated for Stock Dividends, Rights, and Exchanges)

Class	Stock	1922 (Compensated)			1927 (Actual)		
		Earned Per Share	Closing Price	Times Earnings	Earned Per Share	Closing Price	Times Earnings
Department Stores	Associated Dry Goods...	4.11	16.38	3.98	3.39	47.88	14.11
	May Depart. Stores (a)	6.37	34.00	5.34	5.57	85.50	15.35
Drugs & Tobacco	United Cigar Stores .....	0.82	12.35	15.02	1.37	32.38	23.61
	United Drug (c) .....	5.77	79.50	13.78	11.47	195.62	17.07
Furniture	Hartman "B" .....	6.69	41.75	6.24	2.38	19.62	8.24
Mail Order	Montgomery Ward .....	2.49	22.12	8.89	10.25	119.25	11.64
	National-Bellas Hess .....	12.48	64.00	5.13	def.	42.00	..
	Sears, Roebuck .....	1.22	21.62	17.77	5.96	87.62	14.70
Variety Stores	S. S. Kresge .....	1.78	9.10	5.12	3.76	71.50	19.02
	F. W. Woolworth .....	4.52	36.62	7.88	8.03	192.38	23.97
Average .....		..	..	8.92	..	..	16.41
							240

a—Fiscal years ended January 31, 1923 and 1928.

b—After deducting cost of rights.

c—Now "Drug, Inc." 1—Loss.

## New Technique of Uncovering Security Bargains

1922 per-share earnings and market price should therefore be brought to a basis comparable with 1927 by dividing by 15—not by 15.4

The times-earnings ratio is an ideal method for expressing common stock market prices; since it reduces all issues to a comparable basis, regardless of actual earnings per share or the number of shares outstanding. The device shows clearly that a large portion of the five-year advance in market prices was caused by influences which produced a bull market in all stocks, regardless of developments within the merchandising field itself. In fact average times-earnings prices advanced 82%, while actual market prices rose 240%, on an average. Stated otherwise, 82% of the five-year advance in merchandising stocks was attributable to conditions in the money market which caused a corresponding advance in the general market, while 86% was due to increased per-share earnings of the merchandising stocks. Here the credit for rising prices would be divided about 50-50 between money and industrial prosperity.

We can not leave Table III without mention of a peculiarity in the market's appraisal of a stock's value which frequently baffles explanation. It will be observed that issues within the same sub-group possess individualities, expressed in the relative times-earnings ratios, which persist from one year to another. For example:—May Department Stores sells persistently on a higher times-earnings basis than Associated Dry Goods; United Cigar Stores always sells higher than United Drug; Sears, Roebuck leads Montgomery Ward; Woolworth ranks higher than Kresge. The spread between various issues within the same field was generally less, on a times-earnings basis, in 1927 than in 1922, due probably to the growing popularity of this method of appraisal.



## Merchandising Stocks

### The Out-of-Line Method

Several interesting points relating to the Out-of-line method of selecting bargains are brought out in Table IV. It will be observed that each sub-group, or field, within the Merchandising group has its own average times-earnings ratio; and that variations in this ratio among individual issues within the same sub-group are not so great as might be expected. At the end of 1927 the lowest average ratio was among Furniture stocks: the highest among variety stocks.

Where the times-earnings ratio is abnormally high, this is usually due to a drop in earnings which the Street regards as merely temporary. In such instances the ratio had best be computed by using the previous year's earnings. By applying 1927 closing prices to 1926 earnings, a few of these discrepancies would be corrected to read as follows:

Bloomingdale .....	13.30	vs.	23.78
Gimbel Bros. ....	12.45	vs.	471.88
May Department Stores ...	13.45	vs.	15.35
National Department Stores	13.25	vs.	21.00

Issues that experienced the greatest percentage rise in market price during the first 7½ months of 1928 were those that closed the year at relatively low times-earnings prices. These were Best, City Stores "B", The Fair, Oppenheim Collins, Schulte, Hartman "B", and Spear. Oppenheim Collins did not do so well as the others; because its earnings fell off during the first six months of 1928. The conspicuous advances in Gimbel Bros. and National-Bellas Hess were prompted by expectations of better earnings arising from the recent injection of new blood of known ability in to the management. Drug, Inc., rose in anticipation of favorable results to be realized from the recent merger with Sterling Products. Other advances were instigated by reports of better earnings or increasing sales.

# New Technique of Uncovering Security Bargains

TABLE IV  
Market Data on 32 Merchandising Companies Listed on the New York Stock Exchange

Field	Stock	Regular Reports	1927		1928
			Earned Per Share	Closing Price	Times-High to Aug. 16
DEPARTMENT	Abraham & Straus (a).....	Earnings—A	7.96	110.25	13.85
	Arnold Constable (a).....	Earnings—S	3.20	50.00	15.62
	Associated Dry Goods.....	Earnings—A	8.39	47.88	14.11
	Best & Co. (a).....	Earnings—S	6.34	54.50	8.60
	Bloomingdale Bros. (a).....	Earnings—A	1.82	43.25	23.78
	City Stores "B" (a).....	Earnings—Q	6.25	62.75	10.09
	Debenhams Securities, Ltd. (a).....	Earnings—A	4.00	N.L.	102
	Emporium Capwell Corp. (a).....	Earnings—S	2.80	34.00	12.14
	Fair (The) (a).....	Earnings—A	3.16	33.50	10.60
	Gimbel Bros. ....	Earnings—A	0.08	37.75	471.88
STORES	Kresge Department Stores (a).....	Earnings—S	def.	17.88	60
	Macy (R. H.) Co. (a).....	Earnings—A	16.66	235.00	14.10
	Mandel Bros. ....	Earnings—A	2.64	39.12	14.83
	May Department Stores (a).....	Earnings—A	5.57	85.50	15.35
	National Department Stores (a).....	Earnings—A	1.06	22.25	21.00
	Oppenheim Collins & Co. (d).....	Earnings—S	8.35	81.38	9.75
	Outlet Co. (The) (a).....	Earnings—A	7.60	95.00	12.50
	Drug, Inc. (e).....	Earnings—A, Sales—M	11.47	195.62	17.07
	Schulze Retail Stores Corp.....	Earnings—S, Sales—M	4.90	52.00	10.60
	United Cigar Stores Co.....	Earnings—S	1.37	32.38	23.61
FURNITURE	Hartman "B" .....	Earnings—S, Sales—M	2.38	19.62	8.24
	Spear & Co. ....	Earnings—S	2.76	13.88	5.03
	First National Stores (c).....	Earnings—Q	2.02	29.25	14.49
GROCERIES	Weber & Heilbroner (b).....	Earnings—Q	3.91	65.25	16.70
HABERDASHERY	Montgomery Ward & Co. ....	Earnings—A, Sales—M	10.25	119.25	11.64
	National-Bellas Hess .....	Earnings—M	def.	42.00	199
	Sears, Roebuck & Co. ....	Earnings—A, Sales—M	5.96	87.62	14.70
MAIL, ORDER	National Tea Co. ....	Earnings—Q	11.35	173.00	15.25
	Kresge (S. S.) Co. ....	Earnings—Q, Sales—M	3.76	71.50	19.02
	Kress (S. H.) & Co. ....	Earnings—A, Sales—M	5.26	94.50	17.95
TEA, ETC.	McCroly Stores "B" .....	Earnings—Q, Sales—M	5.28	87.88	16.70
	Woolworth (F. W.) Co. ....	Earnings—A, Sales—M	9.06	192.38	21.22
VARIETY					197

a—Fiscal year ended January 31, 1928. b—Fiscal year ended February 28, 1928.  
c—Fiscal year ended March 31, 1928. d—Fiscal year ended July 31, 1927.  
e—Data for predecessor, "United Drug Co." A—Annually. S—Semi-annually.  
Q—Quarterly. M—Monthly. N. L.—Not listed in 1927.

## CHAPTER XIII

### Sugar, Leather, and Tobacco

#### NOTE

Owing to the number of industries considered in this Chapter, it will be necessary to omit the usual statistical surveys, and confine our attention to salient points of interest to the spec-investment forecaster.

#### SUGAR

##### International Competition

Sugar and Shipping are the two outstanding industries that have not as yet been able to recover from the depressing effects of War-time and Post-War overproduction. The War was responsible for a great slump in European beet sugar production, from a maximum of 8.3 million long tons in 1913 to 2.6 millions in 1919. The consequent rise in the price of raws from a low of  $1\frac{7}{8}c$  in 1914, to the dizzy pinnacle of  $22\frac{1}{2}c$  in May of 1920, naturally stimulated production in cane growing countries which were secluded from the European turmoil. War-time experience deeply impressed European statesmen with the disadvantage of being dependent upon foreign countries for supplies of raw material. Moreover, the beet sugar industry is valuable for crop rotation purposes. And, so, during the reconstruction period, one nation after another adopted measures to stimulate home production of sugar beets. Tariff

## New Technique of Uncovering Security Bargains

barriers were raised, with preferential concessions on sugar brought in from the colonies. In several instances substantial bounties were paid to sugar beet growers. The resulting recovery in European beet sugar output, coincident with an abnormal development of the cane industry in such countries as Cuba, Java and Porto Rico, has flooded the world with cheap sugar, and rendered it difficult during the past few years for less favorably situated producers to meet expenses.

Companies whose stocks are dealt in in this country obtain their sugar from crops grown at home, or in Cuba, Porto Rico, Hawaii, Santo Domingo, the Virgin Isles, and the Philippines. The major portion of our supply, however, comes from Cuba. The United States is thus almost wholly independent of foreign sugars, in the sense that practically all sugar consumed here is drawn from home production and that of our island possessions and protectorates. This happy situation has been brought about by almost prohibitive duties on both raw and refined sugars from outside sources. The tariff has varied from time to time during the past thirty years, but now stands at 2.206c per pound for 96 degree raws. Sugar comes in duty free from Hawaii, the Virgin Isles, Porto Rico and the Philippines. On Cuban sugar there is a concession of 20% ; so that the present per-pound cost of bringing in Cuban raws to Atlantic ports, including freight and insurance, comes to 1.77c. Santo Dominican sugar carries the full duty, and so must be marketed in countries other than the United States.

### Sugar Prices

The struggle between cane and beets is no ordinary economic contest in which the more profitable industry ultimately wins ; but a war of politics versus commercial profits. Leading European countries and the

## Sugar, Leather and Tobacco

United States are bent upon fostering home industries, in the interest of peacetime preparedness, regardless of economic expediency or the influence that such policy may exert upon foreign industries. In cane growing countries, moreover, it is easier to increase than curtail the crop; for cane is a perennial plant, which takes several years to mature, and should be harvested at least every 18 months to maintain the value of the planting. For these reasons the output of raw sugar from one year to another bears no close relation to prices obtained for the product. There have been periods when several consecutive years of high sugar prices stimulated only a moderate increase in output; then again, as of recent years, a long period of generally unprofitable prices may be followed by one year after another of overproduction. Fashions, the weather, size of the fruit crops, sugar content, and the year's visible and invisible carryover, are added unknown quantities which render it difficult to estimate in advance either supply or demand for a given year.

Special circumstances, such as war or crop failures, may make it possible to foresee the trend of sugar prices for some months ahead; but, under ordinary conditions, even experts frequently go wrong in their forecasts. As a general rule, it may be said that sugar sells off during the spring months, while the bulk of the Cuban crop is being marketed, then rises during the remainder of the calendar year; but the tendency is sometimes disguised by more powerful market forces. The great need in the sugar trade is more complete statistics of world stocks, and accurate data on invisible supplies in the hands of merchants, middlemen and consumers. With these available monthly, it would doubtless be possible to forecast the trend of raw sugar prices several months in advance; but this is a mere economic dream which can probably never materialize.

# New Technique of Uncovering Security Bargains

## Market Indicators

There is a marked tendency for all sugar stocks to move in the same direction, though the amount of price appreciation or decline over any considerable period of time naturally varies widely among individual issues. For this reason it is of great practical value to forecast the trend of the Sugar Group Ratio. The best available barometer for the Sugar Group Ratio curve is the Sugar Price Difference curve. The latter curve is plotted to show the number of cents per pound by which the price of raw sugar is ahead of or behind the corresponding price of the year before. Price differences, instead of actual prices, are used for this purpose, on account of the seasonal character of the industry. As a general rule, it will be found that the Sugar Group Ratio curve will decline so long as the Sugar Price Difference curve declines, or registers prices lower than the year before. The Sugar Group Ratio curve begins to rise as soon as Sugar prices become higher than the year before, and continues to rise so long as the Sugar Price Difference curve rises. This correspondence between the curves, for the period covered by THE MAGAZINE OF WALL STREET's price index, is condensed in Table I.

TABLE I

*Condensed Record of the Sugar Group Ratio Barometer*

Date	Sugar Group Ratio (End of month)	Sugar Price Difference (Average for the month)
1925—Jan. ....	100.0	—1.2
1926—Mar. ....	114.4	—0.7
Aug. ....	97.9	—0.2
Sept. ....	109.1	+0.1
Nov. ....	121.3	+0.7
Dec. ....	117.0	+1.0
1927—Nov. ....	70.6	0
1928—July ....	61.1	—0.3
	176	



## Sugar, Leather and Tobacco

It will be noted that critical points in the Barometer do not exactly coincide with turning points in the Group Ratio; but the only important exception to the foregoing rules was during the first three months of 1926, when the Group Ratio advanced, despite the fact that raw sugar prices ruled lower than the year before. The spec-investment rule for Sugar stocks may therefore be stated as follows: *Sugar stocks are a purchase so long as raw sugar prices rule higher than the year before and the spread in relative price is increasing—provided indications point to a rise in the general market.*

The foregoing rule applies to stocks of refiners, as well as producers, of raw sugar. It has been the practice of market analysts to base their forecasts of sugar refining stocks upon the spread between refined and raw sugar; but the writer has found this method to be unreliable. According to Government statistics, for example, the spread in 1927 averaged nearly the same as in 1926; yet American Sugar Refining earned only 0.97 on the common stock, against 7.08 in 1926. One difficulty is that posted prices for refined have in the past been no criterion of prices actually received. The trade was demoralized last year by various price concessions and rebates. While these practises may be lessened under influence of the recently formed Sugar Institute, the old observation will probably remain valid that refiners can get relatively better prices for their output during periods of advancing prices than while prices are declining. All industries have the same experience. Then again profits or losses on inventories, and the fact that many refiners are also producers of raw sugar, has to be taken into the reckoning. At any rate, the stubborn fact remains that refining stocks usually do follow the same trend as stocks of growers and grinders, regardless of the spread between refined and raw sugar.

# New Technique of Uncovering Security Bargains

## Individual Issues

The relative prosperity of sugar companies in this part of the world is almost wholly attributable to differences in tariffs and labor costs. Producers in this country generally find that the benefits of protective tariffs are nearly offset by high labor costs. Producers in Hawaii, Porto Rico and the Philippines are doubly blessed by cheap labor and free entry into the U. S. market: hence, of all the companies whose stocks are listed on the Big Board, South Porto Rico Sugar has been the most uniformly prosperous. Cuban cane interests, though favored by cheap labor and a 0.440 tariff concession, have always borne the brunt of national tinkering with this international industry. Her output merely serves as a convenient floating reserve upon which the United States and European countries may draw to make good any deficiency in the supply of home-grown and colonial sugars. Consequently producers of raw sugar there never have enjoyed more than sporadic prosperity, except for the six-year period during and immediately following the War. Restrictive policies of the past few years merely served to increase the unit cost of Cuban production and to stimulate the output of other countries. The experiment will probably be abandoned next year, as England also repeals the Stevenson act restricting rubber exports; but nothing short of another world catastrophe or some form of international cooperation among producers seems likely to revive the Cuban sugar industry during the next few years.

## LEATHER

### A Highly Fluctuating Industry

Tanning and shoe manufacturing activities are so closely interdependent that, for stock market purposes,

## Sugar, Leather and Tobacco

they may be regarded as one industry. Footwear consumes about 75% of our finished leather output, and most of the larger shoe manufactures—including the three listed on the Big Board—operate their own tanneries. The earnings of both branches of the industry vary considerably from one year to another; though the shoe end is relatively much more stable than the wholly dependent tanning industry. The latter is ground helpless between two millstones: the shoe industry above, and the packing industry below. It has little control over either the price and demand for its output, or the supply and cost of its raw material. Tanners can not sell leather unless people buy shoes, yet they must take whatever quantity of hides and skins the packing industry happens to throw on the market as a byproduct.

Owing to the nature of the processes involved, tanners are obliged, even under the most favorable circumstances, to carry a five to six months' supply of hides and skins, material in process, and finished leather. Frequent adjustment of inventory valuations to conform with violent fluctuations in the cost of raw material is thus a serious matter in an industry whose margin of profit is normally small. It is a joyful year in the tanning business when, as in 1927, prices advance steadily from January to December. Unfortunately such years do not happen very often.

Looking over the reports and market performances of the big tanners for a series of years, one is driven to the conclusion that this business is more of a gamble than the oil industry, and for similar reasons. This is a matter of grave concern to tannery executives and long pull investors in their securities; but the field sometimes offers to the spec-investor exceptionally attractive opportunities for handsome profits. The shoe branch of the industry, on the other hand, is less speculative as a rule; because it can pass along to the tanneries a

## New Technique of Uncovering Security Bargains

major portion of the risky burden of large inventories.

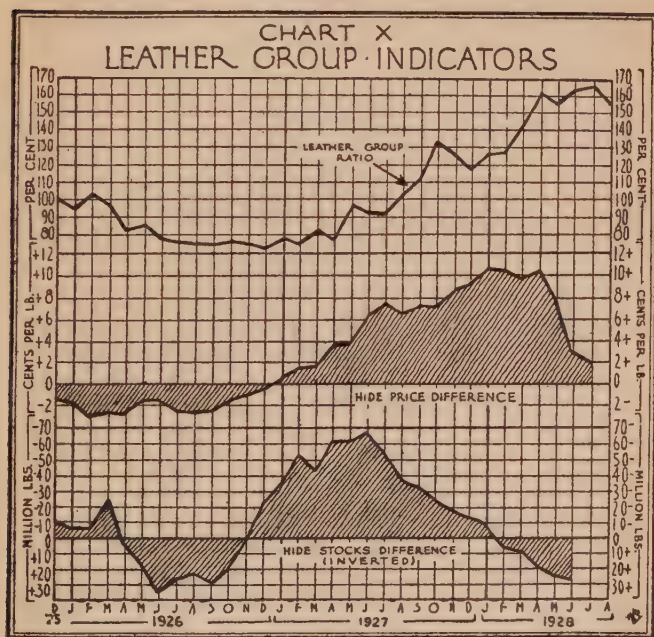
### Market Indicators

The shoe and tanning stocks form a homogeneous group whose components usually move in the same direction, though the magnitude of movement may vary widely among individual issues. For this reason, any method which will help to forecast turning points in the Leather Group Ratio is obviously of great value to the spec-investor in these stocks. Many analysts base their forecasts of the outlook for shoe and leather stocks upon the spread between finished product prices and the cost of raw material. This is unsatisfactory, so far as the shoe branch of the industry is concerned, owing to the lack of representative data on the average wholesale price received for shoes. Experience in the tanning branch is much like that discussed in our paragraph on sugar refining. The spread widens during an advancing market for the raw material and narrows when raw material prices decline; though there is frequently a time lag of several months between the two price movements, owing to delay in working off old inventories. Hence we find, in actual practice, that profits and stock market movements in both branches of the industry can be forecasted from hide and skin price movements alone, without reference to prices obtained for finished products. There is a marked tendency for hide and skin prices, as well as the market prices of shoe and tanning stocks, to sell off during the early months of the year, owing to the poor grade of material that comes to market after the break of winter. Then prices tend to recover with improvement in the quality of hides and skins.

Shoe and leather stocks are not difficult to forecast,

## Sugar, Leather and Tobacco

as a group. Owing to the seasonal character of the industry, the proper barometer to use is the price difference curve, showing the plus or minus differences between current prices for hides or skins compared with those obtaining a year ago. It will be observed from Chart X that turning points in the Leather Group Ratio



curve occur with great regularity three or four months later than corresponding turning points in the Hide Price Difference curve. Calf skin prices participate sooner or later in the broader movements of hide prices. Sometimes the calf skin price curve is in the lead: some-



## New Technique of Uncovering Security Bargains

times it lags months behind. In practice it is therefore well to plot both price difference curves.

We may interpret the hide price difference curve even more simply and observe that *Shoe and Tanning stocks are a purchase so long as hide and skin prices are higher than the year before—provided prospects point to a rise in the general market. Stocks in this group should be sold as soon as hide and skin prices drop below the year before.*

### Barometers

The Leather industry yields material for the construction of ideal forecasting barometers. The Group Ratio curve for any homogeneous class of stocks is of itself a fair barometer. When computing this curve it is well to use points spaced about a month apart. The one shown in Chart X used week-end ratios nearest the end of each month. If points are spaced only a week apart, the Ratio curve becomes so ragged that one is likely to miss the main trend in confusion over transient speculative excursions. Subscribers sometimes complain that THE MAGAZINE OF WALL STREET's price index reaches them too late to be of practical value. Monthly spacing of points does away with this seeming drawback. It will be observed that the Group Ratio curve does not change its main trend without months of preliminary preparation. While the industry was preparing to turn the corner from depression to prosperity, the Group Ratio curve remained stagnant around its low level for a period of nine months—from June, 1926, to March, 1927. This year (1928) the curve has already taken four months to turn at the top. Unless confirmed by some economic barometer, however, forecasting indications of the Group Ratio curve may at



## Sugar, Leather and Tobacco

times be rather ambiguous. It was hard to tell from the Group Ratio curve alone, for example, whether the turning points at the end of May and of October, 1927, marked the end of the bull movement in Leather stocks or merely indicated a temporarily over-bought condition in this group of stocks. Reference to the Hide Price Difference curve, however, cleared up all doubts on this point; because forecasting indications of the latter curve appear several months in advance of jogs in the former curve.

In a few industries, which follow a pronounced cycle of alternating prosperity and depression, the primary economic barometer can in turn be forecasted by a secondary economic barometer. This sometimes enables one to forecast stock market movements in such groups a year or more in advance. The shaded curve at the bottom of Chart X shows the amounts by which stocks of Hides in this country at the end of the month exceeded or fell short of stocks at the same period the year before. The curve is inverted to show decreases above the zero line and increases below the line, in order to bring out visually the relations between this curve and the Hide Price Difference curve, which it anticipates. It will be observed that:

- 1.—Hide prices first rise above a year ago about two months after stocks fall below the year before: in other words, shortly after the time that statistics on the first decrease in hide stocks are released by the Government.

- 2.—The Hide Price Difference curve reaches its apex about seven to ten months after Hide stocks show the greatest decreases compared with the year before. This is about a year and a half in advance of culmination of the bull movement in Leather securities, as indicated by the Leather Group Ratio curve.

- 3.—The Hide Price Difference curve turns upward

## New Technique of Uncovering Security Bargains

about two months after the inverted Hide Stocks difference curve turns upward.

4.—The Hide Price Difference curve turns downward about two months after Hide Stocks first increase above the year before: in other words, shortly after the Government publishes this information.

5.—The inverted Hide Stocks Difference curve turns upward about seven to ten months in advance of the time when the Leather Group Ratio curve turns upward.

It is quite possible that an economic barometer of the Hide Stocks difference curve, in turn, might be constructed from data on the breeding and marketing of cattle; but there can be little of real practical value to the spec-investor in tracing the causes for this month's market prices back to the time of Noah.

### Discounting the Future

If economic data clearly forecast a definite change in the outlook for an industry seven to eighteen months in advance of corresponding changes in the trend of stock market prices for securities in that group, what becomes of the market's reputation for discounting the future? The paradox may perhaps be cleared up by further scrutiny of the curves depicted in Chart X. It will be observed that the Leather Group Ratio curve began to flatten out in 1926 about the time that the inverted Hide Stocks Difference curve turned upward, and began to arch over at the top in 1928 shortly after the Hide Price Difference curve turned definitely downward. This points clearly to the beginning of accumulation by insiders upon the first indications of a turn for the better in the outlook for the industry, and to the beginning of important distribution months before market prices of securities in that group turned def-

## Sugar, Leather and Tobacco

initely downward in 1928. News items and propaganda during the long period of accumulation were characteristically pessimistic, just as they are at this writing (August, 1928) characteristically optimistic.

Here, then, we have a moving picture of the full story. Insiders discount the future by accumulating on indications of improvement which are not generally recognized by the public, and by distributing on unheralded signs of a coming recession in profits. The public buys and sells on facts known to all, and such transactions help to produce the broad market movements which make it possible for insiders to cash in profits. It will be interesting to see if the widespread circulation which the foregoing barometers receive after this book is published will necessitate modifications in the rules for interpreting them.

### TOBACCO

#### Market Indicators

Barometric group forecasting of the Tobacco stocks is somewhat handicapped by the fact that THE MAGAZINE OF WALL STREET's price index for that group includes both cigar and cigarette manufacturers, which are not subject to the same economic influences. Perhaps next year these two sub-groups will be separated.

Cigarette stocks have of recent years generally shown much greater strength than the general market, owing to the phenomenally rapid rate of increase in cigarette sales. Both branches of the industry have benefited by lower costs of raw material, widespread introduction of labor saving machinery, and concentration of manufacture. The larger cigar companies have made considerable headway in offsetting by extensive advertising of trade marked brands the inroads

## New Technique of Uncovering Security Bargains

into their sales made by the growing popularity of cigarettes. Both cigar and cigarette makers, however, began to feel the effects of increasing competition last year; which broke out into the open, early in 1928, with a sharp cut in the wholesale prices of leading cigarette brands. Spec-investors should keep posted on all such general influences.

About the best available barometers for the two sub-groups of this industry are the respective difference curves of cigar and cigarette consumption, constructed by comparing monthly withdrawals from bonded warehouses with the corresponding months of the previous year. Tobacco stocks move by a series of spurts, alternated with intervals of slowly sagging prices while the previous advance is being assimilated. As a general rule, the Group Ratio rises for a few months, beginning shortly after publication of Government figures showing any marked increase in a month's withdrawals for consumption as compared with the corresponding month the year before. The Group Ratio begins to sag off, on the other hand, shortly after the release of Government figures showing any pronounced decrease in withdrawals compared with the previous year. In other words, Tobacco stocks tend strongly to respond to the obvious,

## CHAPTER XIV

### Summary

#### A New Era

**T**HE past fifteen years have witnessed great changes in industry, finance, the stock market, and investment methods. It seems probable that the Federal Reserve System, which was inaugurated at the outbreak of the World War in 1914, and conditions arising out of the War and reconstruction period, are chiefly responsible for the altered business world in which we now live. The Federal Reserve Act gave to this country, for the first time in its history, an adequate and elastic currency; thereby effectively removing the financial restrictions which had hitherto been largely responsible for periodic crises in industry and the stock market.

#### Inflation

The new banking laws created a vast reservoir full of potential credit which rapidly discharged a flood of money into individual and industrial channels. As if this were not enough, it so happened that our stock of monetary gold increased from about 1.87 billions in 1914 to about 4.59 billions in 1927. Within this same thirteen-year period, during which our Federal Reserve System has been in operation, bank deposits grew from 21.3 billion dollars to about 52 billions; loans rose from 15.3 billions to 37.1 billions; savings deposits

## New Technique of Uncovering Security Bargains

mounted from 8.7 billions to about 27 billions; weekly full time wages of union labor increased about 135%; new incorporations, new capital issues, and debits to individual accounts all show similar phenomenal rates of increase.

As might be expected, there has also been great inflation and expansion in the stock market. On the New York stock exchange, for example, annual transactions in stocks have increased from 170 million shares in 1915 to 516 millions in 1927; while bond sales rose from a billion dollars in par value to  $3\frac{1}{4}$  billions. In 1913 only 225 different companies had stocks listed on this Exchange: by the end of 1927 the number had increased to 700. According to compilations made by the New York Times, the monthly average price of 25 leading industrial stocks rose from \$58 in 1914 to \$215 in 1927.

### Competition

Only in commodity prices, where the orthodox economist customarily looks for inflation, have the direct influences of a plentiful supply of credit been less conspicuous; for wholesale prices have risen only 50% since pre-War days, and the cost of living about 65%. A reason for this discrepancy is to be sought in the rapid growth in competition that has developed since the War. During the War an insatiable demand for goods, accompanied by an abundant supply of money capital, led to the development of productive capacities that were far in excess of normal peace time requirements. Since the War a continuance of this ready accessibility of liquid capital has not only encouraged a still further expansion of plant capacity; but has also facilitated huge consolidations of manufacturing con-



## Summary

cerns, permitted, widespread installation of labor saving machinery, and made it possible to finance elaborate sales and advertising campaigns.

Lowered costs of production, and an excessive rate of increase in productive capacity, could lead only to competitive price cutting. The restraint which domestic competition has thus exerted against any extraordinary inflation in commodity prices has been re-enforced by a world wide race in the output of raw materials. Frightened by shortages in basic commodities from which they suffered during the War, foreign nations have since generally adopted the policy of economic self-sufficiency, and this has led to redundant production during a period when their populations have been too impoverished by War and fiscal demoralization to consume the surplus.

As an outcome of this severe competition, and the ease with which funds could be raised for capital expenditures, we find that since the War prosperity has been by no means evenly distributed—either among separate industries or individual concerns. Factors such as location, invention, management, and banking affiliations have assumed greater importance than ever before in the struggle for profits. The larger corporations, generally favored by all these advantages, are making it increasingly difficult for their smaller competitors to survive. By 1925, in fact, statistics show that  $2\frac{1}{2}\%$  of all corporations reporting to the Income Tax Bureau earned 98% of all the profits. Hence, in marked contrast to pre-War days, we now find some industries prospering while others are in the depths of depression; and within each industry, regardless of its state of prosperity, we find some concerns reaping handsome profits at the same time that others are operating in red ink.

# New Technique of Uncovering Security Bargains

## A New Stock Market

The modern stock market not only reflects all these cross currents in industry; but is further complicated by the enormous increase in number and variety of new listings. Among lines of activity not represented before the War we find radio, aviation, electric refrigeration, vacuum cleaners, washing machines, safety razors, railway signals, proprietary medicines, household cleaners, hosiery and many others. Some of these are new industries: others merely reflect sufficient growth in size and stability to warrant listing on our leading Exchange. Prior to the War a few prominent issues practically monopolized the tape: since the War the market has not only developed many new leaders; but activity is constantly shifting from one temporary favorite to another. All this expansion in magnitude and complexity obviously adds enormously to the amount of detailed information a person must digest in order to invest successfully.

## Price Movements

Prior to the War all issues usually moved together in the same direction, though at varying rates; and any broad stock market movement of conspicuous magnitude was invariably followed within a few months by a corresponding change in business conditions. It came to be held as axiomatic that all the more important swings were governed by, and hence prophetic of, the business outlook. Now we may find bullish influences dominant in one section of the market while other groups and individual stocks are selling off, and the Combined Averages are no longer a dependable barometer of the general business outlook.

All the confusion in security price movements of re-

## Summary

cent years is, however, more apparent than real. Close study will reveal that stocks move according to fairly definite laws:

1.—There are three chief forces that determine market price movements—current conditions in, and prospective outlook for, the money market; current conditions in, and outlook for, the industry; and special circumstances relating to the current condition of, and outlook for, the individual company and its securities.

2.—Special circumstances act only upon individual securities. Industrial circumstances act with equal force upon the industrial group index and its component issues. Money influences act alike upon the Combined Average, all the group averages, and each separate stock.

3.—The market's progress is interrupted from time to time by reactions counter to the main trend, brought about by rumor, news, an unstable technical position, or passing disturbances in the money market. Intervals between major reactions, which are usually due solely to money market influences, are known as "Spec-investment Cycles."

4.—Nearly all group averages and individual stocks participate in these Spec-investment Cycles, to a greater or less extent. The bottoms of a major reaction among the various group indexes and individual stocks coincide more closely with the bottom of the reaction in the Combined Average than do the various tops.

5.—Week-to-week fluctuations in individual stocks conform more closely to corresponding price changes in their respective group indexes than to fluctuations in the Combined Average; and individual issues are all more likely to sell off at the same time on minor and transient drives against the market than to rally at the same when the market recovers.

6.—Group indexes of industries for which the out-

## New Technique of Uncovering Security Bargains

look is more favorable than the average usually advance more rapidly than the general market when it rallies, and decline less rapidly than the Combined Average on reactions. The opposite behavior may usually be observed when the outlook is less favorable than the average.

7.—Individual issues for which the outlook is more favorable than the average within their industry usually advance more rapidly than the corresponding industrial group index when it rallies, and decline less rapidly than the group index on reactions. The opposite behaviour may usually be observed in individual stocks which are under the influence of an outlook less favorable than the average within their industry.

8.—The long-pull progress of any individual stock is dominated by developments affecting the company. The long-pull progress of a group index is dominated by developments which affect the industry as a whole. The long-pull progress of the Combined Average is dominated by developments in the money market.

### Money Influences

The direct and indirect influences exerted upon security price movements by interest rates and the supply of money and credit, over both longer and shorter periods of time, have been discussed at considerable length in the foregoing pages. In this brief summary there is room for only a few points of immediate interest to the spec-investor who undertakes to forecast major movements in the Combined Average.

When market prices and brokers' loans rise too rapidly, it has always been the custom for banking and brokerage authorities to throw on the brakes. Interest rates are advanced; banks scrutinize collateral more

## Summary

closely, and reduce the percentage of current market prices upon which loans have hitherto been based ; while brokers raise their margin requirements, and urge customers to "take profits". Sometimes banking authorities will even issue more or less pointed warnings. In practical effect, all these measures amount to a curtailment of credit for stock market purposes, and are indeed accompanied by frequent calling of loans. The birth and growth of this adverse sentiment can be sensed by any regular reader of the daily financial columns, weeks in advance of the reaction which it precipitates. It is not so easy to forecast the end of a shake-out until after the recovery has gained considerable headway. If the decline has been very drastic, the approach of a turning point in the tide is frequently indicated by editorial scolding of the banking authorities for their high-handed interference, and by quiet and unofficial relaxation of margin requirements on the part of bankers and brokers. A decline of several hundred millions in the item, "Loans secured by stocks and bonds", in the weekly statement of all reporting member banks, is a healthy sign ; especially if accompanied by a slight softening in interest rates, less frequent calling of loans, and several weeks of steady or slowly recovering prices during which loans on securities continue to decline. Usually, too, when the reaction is about over, a few leaders will begin to respond to favorable news and earnings statements. These will be followed by still others of that class of high priced stocks which are known as "blue chips", until more and more issues catch the contagious optimism. At the beginning of the recovery, volumes are larger on rallies than on reactions ; and further jumps in the call rate merely cause the market to go dead instead of reacting. Failure of the market to decline on seemingly unfavorable news is another indication of a strong technical position. Ex-



## New Technique of Uncovering Security Bargains

perience, however, is the best teacher in training one to forecast these movements. No two spec-investment cycles are ever exactly alike.

### The "Group Ratio"

A curve computed by taking the percentage ratios of a group index to THE MAGAZINE OF WALL STREET'S Combined Average is an excellent aid to studying the effects of industrial influences upon the stock market. Points on this curve should be spaced about a month apart by computing the percentage ratios for each Saturday that falls nearest the end of successive months. Where stocks are in wide speculative favor—as automobile, steel, petroleum and, at times, a few other classes—the group index usually rises more rapidly than the Combined Average, when the latter advances; and falls more rapidly than the general market during reactions. Moreover, where a group is composed of only a few issues, one or two of these may dominate the group index and tend to obscure its normal trend. The monthly spacing of points usually serves to exclude such irrelevant and confusing fluctuations from the Group Ratio curve.

The Group Ratio method of using the Combined Average as a moving base from which to measure a group's progress has the practical value of eliminating, not only money market influences—which affect all groups equally, but also secular progress of the Nation's business as a whole. Movements in the Group Ratio curve are therefore caused solely by changing prospects in the industry which it represents.

Interpreted in terms of the stock market, a rising Group Ratio means that stocks of that industry are stronger than the general market: a falling Group Ratio signifies the opposite. When the Combined



## Summary

Average is advancing, a rising Group Ratio means that stocks in that group are, on an average, moving ahead faster than the general market: when the Combined Average is declining, a rising Group Ratio merely shows that stocks in that group are, on an average, not so weak as the general market. A declining Group Ratio, on the other hand, means that, on an average, stocks of that group are weaker than the general market when the Combined Average is falling, and that they hang back, or even decline, while the rest of the market is strong.

### Group Barometers

The function of a stock market barometer is to give advance notice of when turning points in the main trend of individual issues, or groups of stocks, are likely to take place. So long as the barometer tells one when to buy and when to sell, it is not really essential to know the magnitude of coming price movements.

The Group Ratio curve for any homogeneous class of stocks is of itself a fair barometer; for it moves chiefly in response to changes in the industry's outlook, and economic conditions do not shift around so frequently as does speculative sentiment. A rising Group Ratio usually arches over gradually at the top, during a period of several months, before turning definitely downward; and a declining Group Ratio curve may flatten out at the bottom for months or years before starting on its upward course. Sometimes, however, the Group Ratio curve will make a false start in one direction or the other, before its main movement is really over; and so it is a great advantage if some other curve can be found which will forecast turning points in the Group Ratio curve. Such forecasting curves are called, "Group Barometers".

## New Technique of Uncovering Security Bargains

Stocks are usually prompt in responding to any developments which point to changes in earnings. The formula for earnings is volume of sales unit selling price, less operating expenses. Any reduction in operating expenses is a bull argument; but such reductions are usually effected so gradually that they need not be considered by the spec-investor. Unit prices and volume of sales, shipments, or output, however, frequently fluctuate over a comparatively wide range within periods of a few months, and are thus valuable for forecasting purposes. When unit prices are steady, or changing slowly, volume of business is the factor to watch. When unit prices change rapidly, these alone should be used for the barometer. This is due to the practical observation that rising prices are usually accompanied by an increase in the physical volume of business, whereas falling prices are generally the outcome of a declining volume of business. In industries where the unit cost of raw material fluctuates widely, selling prices—though more sluggish—usually follow raw material costs in such a way that the margin of profit increases on rising prices and diminishes on falling prices. Frequently representative data on selling prices are lacking in such instances, so that unit prices of raw material are the figures to use in constructing the barometer. When volume of business is used as a barometer, the curve should be platted to show the amounts by which business each month exceeded or fell behind the corresponding month last year. This we call the "Difference Curve". When unit prices are used as a barometer the Difference Curve should be employed in industries that are seasonal in character; otherwise actual prices should be platted, and to logarithmic ordinates.

In some industries, where fluctuations in raw material prices are caused by changes in the size of ac-

## Summary

cumulated stocks, a Stocks Difference Curve may be utilized as a secondary barometer for forecasting turning points in the Price, or Price Difference, barometer. The Stocks Difference curve, however, should be inverted to show increases below the zero line, and decreases above. Here we have a barometer of a barometer, which enables one to forecast turning points in the Group Ratio curve many months in advance.

### Steel

As this industry is seasonal, and prices of finished products change slowly, the barometer to use is the Steel Ingot Production Difference curve. Turning points in this curve, however, coincide closely in time with turning points in the Group Ratio curve—instead of occurring several months in advance. For this reason it is not an ideal barometer. Fortunately, in this industry, we have a good secondary barometer in the “New Orders for Steel Castings Curve”, whose turning points occur about two months in advance of the Steel Ingot Production graph.

### Petroleum

Here we have two primary and several secondary barometers, as the industry follows a well defined cycle of prosperity and depression. The primary barometers are based upon number of wells brought in each month compared with the year before, and also with the preceding month. Wells brought in are extremely responsive to changes in the prices of crude, for which representative data, covering the country as a whole, are lacking. Every angle in the Wells Brought In Difference curve is followed within a few months by a corresponding change in the Group Ratio curve. Rules for

## New Technique of Uncovering Security Bargains

using Wells Brought In, in comparison with the preceding month, will be found in the text. A curve showing changes in accumulated stocks is of assistance in forecasting the Wells Brought In barometers; but indications of this secondary barometer are at times uncertain, and were therefore omitted from the text.

### Copper

The barometer here is the actual monthly average wholesale price of copper. Turning points in the price barometer usually anticipate by several months the corresponding turning points in the Group Ratio curve. Curves showing monthly world production of blister copper, and North and South American stocks of blister plus refined, are useful secondary barometers of the Price curve. The stocks curve should, of course, be inverted. As a general rule, decreases in production and stocks favor price advances in the metal; and *vice versa*.

### The Railroads

Here the Group Ratio curve usually turns upward about the time that monthly car loadings show an increase over the year before, and turns downward again when the Car Loadings Difference curve drops below the zero line. It is important to note again that, owing to the highly seasonal character of railroad traffic, car loadings should be compared with the corresponding month the year before—not with the preceding month of the current year.

### Public Utilities

So far as the writer has been able to ascertain, there are no satisfactory barometers for any of the subgroups of this industry. Individual stocks can be fore-

## Summary

casted fairly well by watching the course of comparative earnings; since many companies in this field report monthly.

### Automobiles

Owing to the highly competitive conditions which have obtained in the automobile industry of recent years, stocks in this group have followed such divergent price paths that a group barometer would be meaningless. The market trend of individual issues which are likely to experience the most pronounced upward movements, however, can be inferred with considerable accuracy from published information. Practically all of the automobile companies report earnings quarterly; many give out monthly statements of sales, shipments or production; and interim information on all the companies is unusually prolific.

### Tires

The monthly average price of crude rubber, platted to a logarithmic ordinate, generally anticipates by a few months all important movements in the Tire Group Ratio curve.

### Automobile Accessories

Turning points in the monthly Automobile Production Difference curve usually precede by a few months most of the important turning points in the Accessories Group Ratio curve.

### The Merchandising Stocks

Profits of merchandising companies, and hence the broader market movements of their securities, depend largely upon the general prosperity of the districts in



## **New Technique of Uncovering Security Bargains**

which they are located. About the best barometer for department, haberdashery, and grocery stores are therefore the difference curves of debits to individual account, reported by the Federal Reserve Board for various sections of the country. Drug, tobacco, mail order, and variety chains report monthly sales and these, checked up with periodic earnings reports, afford valuable clues to the future trend of individual stocks in those fields.

### **Sugar**

The Sugar Group Ratio curve usually rises so long as the excess of raw sugar prices over the year before continues to increase. The Group Ratio curve will decline so long as this spread in comparative prices diminishes, or so long as raw sugar prices are less than the year before.

### **Leather**

The same set of barometers serves equally well for both Shoe and Tanning stocks, which are both included in the Leather group. Turning points in the Leather Group Ratio curve follow, with great regularity, three or four months after corresponding turning points in the Hide Price Difference curve. A Hide Stocks Difference curve, in turn, serves as a secondary economic barometer of the Hide Price Difference curve. Rules for using this secondary barometer as a means of forecasting leather stock movements a year or more in advance will be found in the text.

### **Tobacco**

There should be separate Group Ratio curves for cigar and cigarette stocks; since these two sub-groups of the Tobacco industry are subject to different econom-



## Summary

ic influences. About the best available barometer for the two sub-groups are the respective Difference curves of Cigar and Cigarette Consumption, as indicated by monthly withdrawals from bonded warehouses. As a general rule, the Group Ratio will rise or fall for a few months, beginning shortly after publication of Government figures showing any marked comparative increase or decrease in consumption.

## Individual Stocks

The object of *Scientific Spec-investing* is not only to buy stocks that go up; but to select those which rise faster than the general market. This *involves the selection of issues with bright prospects, among industries in which the outlook is generally favorable, at a time when the Combined Average is trending upward.* The best common stocks to buy are those for which the earnings outlook has been greatly improved by recent developments, and which are most underpriced on a "Times-earnings" basis in comparison with other issues in the same group.

## The "Out-of-Line" Method

The "Times-earnings ratio" is an ideal expedient for expressing common stock market prices; for it reduces all issues to a comparable basis regardless of actual market price, earnings, or number of shares outstanding. Unfortunately it is not applicable in situations where per-share earnings are small, or "in the red". When applying this ratio in actual practice to stocks whose per-share earnings having been decreasing moderately, it is usually advisable to use the larger per-share earnings of the two most recent years, especially in a bull market; because investors usually assume the

## New Technique of Uncovering Security Bargains

attitude that a single year's decline in earnings was merely accidental, and that the true earning power is at least equal to that shown the year before.

For each industry there is an average Times-earnings Ratio at which stocks sell at any given time. Whenever an individual issue within the group shows a Times-earnings Ratio conspicuously higher or lower than the average, it is well for the spec-investor to ascertain the reason why. An exceptionally low Ratio, for example, may indicate that the Company's affairs are on the down grade, it may mean that conditions are now changing for the better after a period of dubious outlook, it may turn out to be a situation in which earnings are increasing more rapidly than the market has been able to discount, or it may be merely an obvious bargain that has been overlooked by investors.

When selecting bargains by this "Out-of-line method", there are several peculiarities that are worth bearing in mind:

1. There are usually issues in any group which sell persistently, from one year to another, on a higher or lower Times-earnings basis than other issues in the same group. This may be due to differences in the rates at which earnings are changing, to differences in the amount of publicity accorded the various individual issues, to differences in their appeal to the popular imagination, or perhaps to hidden assets and concealed earning power.

2. The Times-earnings Ratio almost always moves in the same direction as the Combined Average; and in the instance of speculative favorites, this Ratio may move further in either direction than the Combined Average, because stocks of a speculative character usually over discount the future.

3. The Out-of-line method offers only an approximate standard by which to judge whether a stock has

## Summary

under- or over-discounted its true intrinsic value; for it fails to allow for the fact that issues whose earnings are increasing rapidly should sell on a higher Times-earnings basis than those whose earnings are decreasing, or even growing at a slower rate.

## When to Buy

The foregoing discussion has been largely confined to what to buy; but it is almost as important to know "When", if the spec-investor would keep his investment capital working at maximum efficiency. The market is now such a huge affair that it moves in sections. Sometimes it is the high priced, sometimes the low priced issues that occupy the centre of the stage. Then again it may be the oil stocks, or the steel group, or the railroads, etc. As soon as a fresh group comes to life, it is well to hunt for the underpriced issues in that group which have not yet participated in the upturn. Publication of an unexpectedly favorable earnings statement may start a good sized move in a stock. Sometimes an item of news may cause stocks of a certain section of the country to rise rapidly. Then there are seasonal influences, such as the stimulating effect of approaching Christmas holidays upon merchandising stocks, that should be watched. Consideration should also be given to a stock's "Technical position," and to volume and news indications.

THE END,











